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Opinions of Experts Working on Identification of Gifted Children in Early Childhood

Erken Çocukluk Döneminde Özel Yetenekli Çocukların Tanılanmasında Görev Alan Uzmanların Görüşleri

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Abstract: This study aims to examine the views of experts involved in the identification of gifted children in early childhood towards identification. The study included 15 experts working in identification at Guidance and Research Centers (GRCs) in Gaziantep, Erzincan, Malatya, and İstanbul provinces. For this qualitative research study, a semi-structured interview form, created by the researchers in accordance with the aims of the research, was used to explore the views of experts involved in early childhood identification. The results of the expert opinions show that the participants defined special ability as above average performance, creativity, problem solving, quick comprehension, and learning. Participants emphasized the necessity of identification in early childhood in order to reveal potential and differentiate education programs. They emphasized the strengths and weaknesses of the tools used in identification. They revealed the problems experienced in the identification process especially in immigrant and refugee groups. They emphasized the effect of pre-test preparations and the opinions of families and teachers on the identification process. A number of recommendations were made in line with the opinions of the experts involved in identification.

Keywords: Giftedness, early childhood, identification, expert opinions

Öz: Bu çalışma erken çocukluk dönemindeki özel yetenekli çocukların tanılanmasında görev alan uzmanların tanılamaya yönelik görüşlerini incelemeyi amaçlamaktadır. Çalışmaya Gaziantep, Erzincan, Malatya ve İstanbul illerindeki RAM'larda (Rehberlik Araştırma Merkezi) tanılamada görev alan 15 uzman katılmıştır. Nitel bir araştırma olarak kurgulanan bu çalışmada, erken çocukluk döneminde tanılamada görev alan uzmanların görüşlerini incelemek için araştırmacılar tarafından oluşturulan yarı yapılandırılmış görüşme formu kullanılmıştır. Uzman görüşleri sonucunda ortaya çıkan bulgularda, katılımcılar özel yeteneği daha çok ortalamanın üzerinde performans gösterme, yaratıcı olma, problem çözme, hızlı kavrama ve öğrenme olarak tanımlanmışlardır. Katılımcılar özel yetenekli çocukların potansiyellerini ortaya çıkarmak ve eğitim programlarının farklılaştırılması açısından erken çocukluk döneminde tanılamamanın gerekliliğine dikkat çekmişlerdir. Ayrıca tanılamada kullanılan araçların güçlü ve zayıf yönlerine de vurgu yapmışlardır. Özellikle göçmen ve mülteci gruplarında tanılama sürecinde yaşanan sorunları ortaya koymuşlardır. Test öncesi yapılan hazırlıklar ve tanılama öncesinde aile ve öğretmenlerden alınan görüşlerin tanılama sürecine olan etkisini vurgulamışlardır. Çalışma sonucunda tanılamada görev alan uzmanların görüşleri doğrultusunda birtakım öneriler getirilmiştir.

Anahtar Kelimeler: Özel yetenek, erken çocukluk dönemi, tanılama, uzman görüşleri

Güler, O., Canpolat, S., Ökcü, M. & Camcı, S. (2024). Opinions of experts working on identification of gifted children in early childhood. *Erzincan University Journal of Education Faculty*, 26(4), 494-506. <https://doi.org/10.17556/erziefd.1435724>

Introduction

Early childhood is the period of the fastest growth and development in an individual's life. This time frame typically includes the years between birth and age six. Early childhood plays a crucial role in the physical, cognitive, emotional, and social development of the child. Early childhood is an essential period in terms of both individual and social development (Tunçeli & Zembat, 2017; Ünver & Erdamar, 2015). Research emphasizes the significance of early life events for brain development, and the planned and programmed implementation of early life events is provided through early childhood education. The impact of early childhood education is very important and this impact is undeniable in the field of identification and education of gifted children (Sankar-DeLeeuw, 2002). For this reason, early childhood is one of the most vital periods to be emphasized in order to understand giftedness and its development (Clark, 2015). At this point, the importance of early identification, which is the first step in understanding and developing giftedness, comes into play. In line with this importance, we aimed to obtain the opinions of experts involved in the identification of gifted children in early childhood. That is because the units responsible for the identification of gifted individuals in the region and carrying out support education services and guidance and psychological

counseling services for these individuals are Guidance and Research Centers (GRCs) in line with the 2006 regulation of the Ministry of National Education (MoNE) and the 2018 Art and Science Center (ASC) identification directive in Türkiye. In the preschool period, gifted students are identified at these centers if their families or preschool teachers make a referral. In this study, the opinions of the experts working in the identification process in GRCs will be included.

Research suggests that identifying gifted students in early childhood can provide a number of important advantages in terms of maximizing potential, implementing appropriate educational strategies and resources, achieving academic success, better understanding of self-awareness and needs, and increasing social-emotional well-being (Robinson, et al., 2007; Rogers, 2002; Subotnik, et al., 2011). However, the identification of talent in early childhood can bring about a number of problems. The identification of gifted students at an early age can create pressure on children to perform at high levels, cause stress and anxiety, and create social and emotional difficulties (Cross et al., 2017; Gross, 1999; Olszewski-Kubilius & Subotnik, 2018; Robinson et al., 2007). In addition, if they are unable to locate peers who share their interests and are on the same level as them, may become frustrated and distressed (Sankar-DeLeeuw, 2002; Leana-

Taşçılar, 2017). Although many researchers increasingly recognize the benefits of early childhood identification in terms of early intervention and educational planning (Pfeiffer & Petscher, 2008), the debate on early identification continues.

Both on a global scale and in Türkiye, there are some limitations on the identification of gifted children and students both in terms of methods and identification tools (Bal-Sezerel, 2020; Cao et al., 2017; Karadağ, 2022). One of the most fundamental limitation of early identification stems from questions about whether giftedness can be identified reliably in early childhood (Gottfried et al., 2009). One of these questions is the adequacy of the measurement tools used in identification. As a matter of fact, both Thorndike (1940) and a number of researchers have stated that tests in early childhood have limitations in detecting intelligence test performance at school age (Baron & Leonberger, 2012; Colombo, 1993). Research suggests that intelligence tests might not capture the whole range of cognitive abilities associated with giftedness and may be biased against children from low-income or culturally distinct groups (Callahan, 2017). At this point, it is argued that a number of assessment tools should be introduced in addition to standardized intelligence tests. The identification of gifted children is a complex process that requires the use of multiple criteria and assessment tools. The use of multiple criteria and assessment tools in the identification of gifted children is beneficial in terms of reducing measurement errors, providing a complete understanding of students' giftedness, including students from disadvantaged groups, and providing multiple opportunities for students to demonstrate competence (Geiser et al., 2016; Gökdemir, 2017; Hartas et al., 2008; McBee et al., 2014; Pfeiffer, 2015). However, two controversial issues arise when using a multi-criteria identification strategy. First, which assessment tools and/or assessment methods should be used, and second, how accurately and in detail the information from different assessment tools, which may or may not contradict each other, should be combined (Cao et al., 2017). At this point, it is also important to consider the competence of experts involved in the identification of gifted students in early childhood. Pyryt (2004) states that for the correct identification of gifted students, the experts making the identification should have expertise in the assessment of gifted students. It is important to know the characteristics of children and the identification and assessment tools very well, and to have expertise in their application, especially in the correct identification of twice-exceptional children (Leana-Taşçılar, 2020). In addition to expertise in special education, there are a number of issues that can help specialists involved in the identification of giftedness in early childhood. These include parental observation, teacher observation/advice and portfolio assessments (Shaklee, 1992). Research suggests that parents' observations of their own children can provide crucial information for identifying young gifted children (Fan, 2003; Pletan et al., 1995). Teacher recommendations/nominations and portfolio assessments have also been widely used to identify gifted students. However, many studies suggest that teacher observations in early childhood are less helpful in aiding identification than parent observations (Gray, 1980; Gear, 1978; Hadaway & Marek-Schroer, 1992). In general, in addition to multiple identification criteria, it is considered best practice to incorporate observations of parents and teachers (Phelps et al., 2023; Robinson et al., 2007; Sutherland, 2008). In conclusion, Pfeiffer and Petscher (2008) state that accurate

identification is the first and most important step in planning services for gifted preschool students. Pfeiffer (2008) states that as the importance of identification rises, the questions of what, why, how and when come to the fore. At this point, the answers to these questions given by experts involved in early childhood identification will be very valuable.

Valler et al. (2016) stated that the next logical study for future researchers is to interview experts in the field about giftedness. In addition, Brown et al. (2005) draw attention to the importance of practitioners' and policy makers' beliefs about identification. In the literature, there are a number of opinion, perception and recommendation studies on the identification and education of gifted students in early childhood. However, these studies were generally conducted with parents, preschool and ASC teachers (Alemdar, 2009; Bildiren et al, 2020; Çetinkaya & İnci, 2019; Şenol, 2023; Tezcan, 2012). There is no research that comprehensively analyses the opinions of experts involved in identification in early childhood. Indeed, Grant and Morrissey (2021) emphasized that the early childhood period has been neglected in studies on gifted education. Similarly, Demirel-Dingec and Kirişçi (2023) stated in their research that leading and reputable international journals in the field of gifted education have focused on early identification in recent years. From this perspective, this research is expected to contribute to the field. In Türkiye, the evaluation of special ability is predominantly based on the child's mental performance. Mental performance is generally determined according to the results of group tests and individual intelligence tests conducted through GRCs (Tarhan & Kılıç, 2014). GRCs, which are responsible for the identification and placement of gifted students, play a key role in this process. For this reason, research on the practices in GRCs and the opinions of the employees are also important in this respect (Eker & Sarı, 2021). At this point, it is thought that the opinions of the experts working in identification in GRCs, who are assumed to have a good command of the dynamics of the tests, will make constructive contributions to the literature.

Gifted children often exhibit exceptional talents or strengths in academic, creative or social-emotional areas, or in some areas. Professionals involved in identification can help to identify these strengths and provide information that can help to identify giftedness. By providing information about a child's strengths and needs, they can help to develop appropriate education plans and interventions with guidance to parents and teachers. They can also make recommendations for appropriate educational and enrichment opportunities that can support a child's development. Overall, the opinions of diagnosticians can be an important component of early childhood giftedness identification as they can provide valuable and in-depth information that helps to identify a child's strengths and needs.

Considering the results of the studies mentioned above, this study aims to address a critical gap in the literature on early identification of gifted children. Specifically, it seeks to analyze the strengths and weaknesses of the methods employed in this process by focusing on the perspectives of experts directly involved in early identification. Given that existing studies in the literature predominantly focus on parents, preschool teachers, and ASC teachers, this study is expected to make a unique contribution by incorporating the insights of early childhood identification experts for the first time. Moreover, considering the growing interest in early identification within the international literature and the distinct dynamics of identification processes in the Türkiye context,

this study is anticipated to provide valuable contributions to both national and international gifted education literature. In the light of all these predictions, the purpose of this study is to obtain the opinions of experts involved in the identification of gifted children in early childhood. In line with this main purpose, expert opinions on the identification of gifted children in early childhood are evaluated with a set of interview questions.

Methodology

Research Design

The aim of this study is to examine experiences of experts involved in the identification of gifted children in early childhood. The research employed the phenomenological approach, a qualitative research method, as its study design. The phenomenological approach allows for a deeper analysis and comprehension of a phenomenon or occurrence (Creswell, 2013; Yıldırım & Şimşek, 2021). This approach is qualitative research in which researchers examine participants' perspectives, emotional experiences, thoughts, and how they perceive events (Merriam, 2013). In this study, semi-structured interview technique was used to reveal the experiences of the participants. The semi-structured interview technique enables the elicitation of experiences and new and unexpected meanings, the development and renewal of intervention methods, the production of policies for needs, and the researchers to obtain more in-depth and richer information (Neergaard et al., 2009; Patton, 2002). The procedures carried out within the scope of the research are given in Figure 1.

Participants

Fifteen experts working in diagnostics in GRCs in Gaziantep, Erzincan, Malatya and İstanbul provinces, selected through convenience sampling participated in the study. Convenience sampling provides practicality and speed to the research as it selects participants with close and easy access (Yıldırım & Şimşek, 2021). The data was obtained through interviews with 15 identification experts (psychological counselor) working in GRCs. Before starting the interviews, appointments were

made with CRCs directors and diagnosticians, and preliminary interviews were conducted with them. As a result of the information, participation in the research group was voluntary.

The subjects participating in the research can be handled in two different structures in the context of the research method. The first one is the participants, and the second one is the researchers. In this context, nine of the participants were male and six were female. All of the participants were experts who had one or more roles in the identification of gifted individuals in early childhood and had experience in identification. Participants are also individuals with experience of identifying one or more refugee and migrant children. In addition to all these, the participants were responsible for identifying gifted children in early childhood to serve the purpose of the study. All of the participants work in GRCs under the MoNE. In addition, the researchers, who are the other subjects of the current study, are doctoral students and doctoral graduates in the field of giftedness and are experienced in qualitative research methods.

Instrument

A semi-structured interview form developed by the researchers in line with the purpose of the study was used to examine the views of experts involved in early childhood identification. Semi-structured interview is a qualitative data collection technique consisting of open-ended questions that allow the researcher to control the interview on the one hand and provide flexibility for the participant to answer the focal question in depth on the other (Willig, 2013). After the development of the semi-structured interview form, the opinions of five faculty members who are experts in the field of gifted education were obtained. Based on the opinions received, consensus was reached on six of the eight questions, but 2 questions were suggested to be reorganized. In line with the feedback from the experts, the two questions were reorganized. Afterwards, a pilot study was conducted. According to the results of the pilot application, the interview questions were revised and the final form was created in line with the expert opinions. The questions in the interview form are given below in order:

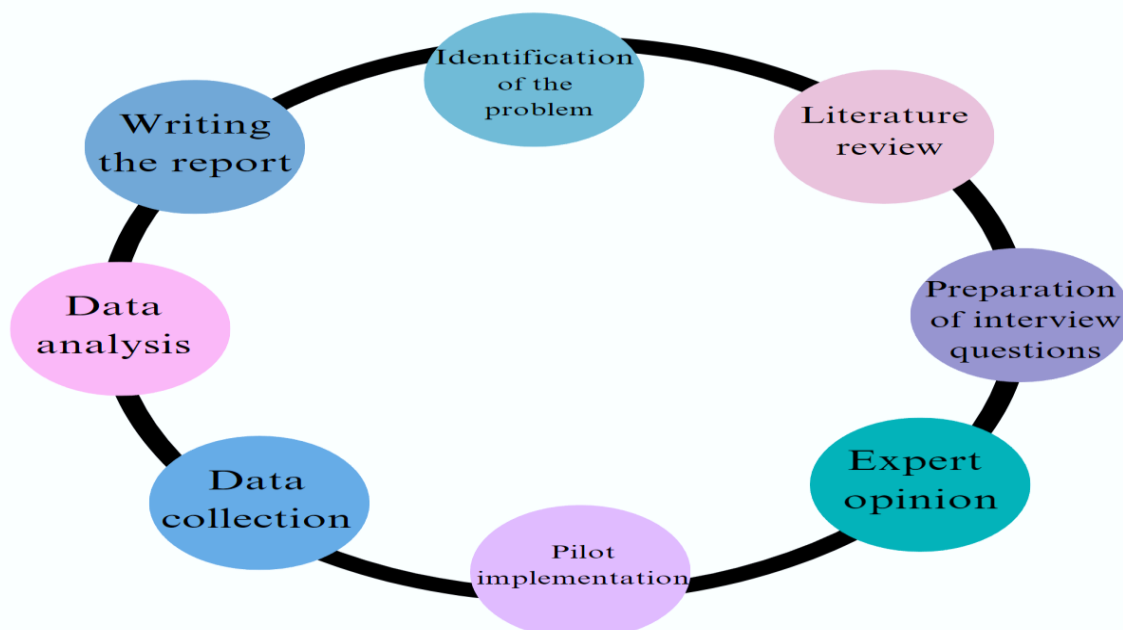


Figure 1. Procedures conducted within the scope of the research

1. What do you think special ability is? How would you define it?
2. What do you think about the identification of gifted children in early childhood? (Can you evaluate the necessity and appropriateness of identification in this period?)
3. Which characteristics of a child nominated in early childhood make you think that the child is gifted?
4. What do you think about the strengths and weaknesses of the tools used in identification? How do you deal with these weaknesses?
5. How does the information you get from the family contribute to the identification process?
6. How does the information you get from the teacher (if he/she receives preschool education) contribute to the identification process?
7. What do you think about the competence of identification tools used in early childhood to identify disadvantaged groups (refugees, immigrants, minorities, single-parent families, twice different children, etc.)?
8. How do you prepare a child for the test before administering it to a child in early childhood?

Data Analysis

The interview data obtained from the experts was transferred to a separate word document. The data was then transferred to the NVIVO 11 program and subjected to content analysis. Content analysis is an analysis technique in which themes, categories, and codes are created by using words or groups of words to reflect the essence of a text (Büyüköztürk, et al., 2020). The main purpose of content analysis is to explain the interview data and to reach the concepts and relationships between concepts (Yıldırım & Şimşek, 2021). The frequency (f) of the analyzed data consisting of explanations and sample quotations of the interviewees are presented in the findings section. Interviewer codes were used as Expert 1 (E1), E2, ...E15.

Credibility and Consistency

In the current study, the data collection process was ended with the data repeating itself. In addition, a consistency study was conducted in the research and the concept of consistency is used in the same sense as the concept of reliability in

quantitative research (Yıldırım & Şimşek, 2021). In this context, each action was discussed and explained in detail during the current research. In addition, the researchers took care to avoid prejudices and tried to collect the data in detail to increase credibility. Then, the data analyses were submitted for expert review. To ensure reliability, it is very important that the coders reach a consensus and get the opinion of a different expert (Türe, 2023). Feedback was received from three experts who are competent in the field. As a result of the feedback received, corrections were made in the errors detected. At this point, Miles and Huberman's (1994) calculation methods were used to ensure inter-coder agreement, and according to Miles and Huberman (1994) the agreement should be at least 0.70. In the current study, the agreement between the coders was calculated as 0.83. Thus, it can be said that the reliability in the current study is sufficient.

Findings

In this section, the findings obtained as a result of the interviews with experts working in early childhood identification are presented. According to the findings, themes such as the concept of giftedness, signals of giftedness, identification in early childhood, tests used in educational identification, pre-test preparations, family and teacher influence on correct identification were identified. The themes are given in Figure 2.

These themes are explained respectively. Experts' views on the concept of special ability are presented in Table 1.

Table 1. Experts' views on the concept of giftedness

Definitions	f
Performing above average	9
Being creative	8
Problem solving	5
Fast comprehension-learning	5
Become a leader	4
Higher order thinking	3
Interested in art	3
Academic achievement	2
Acting independently	2
Being curious	2
Being careful	1
Overexcitability	1
Total	45

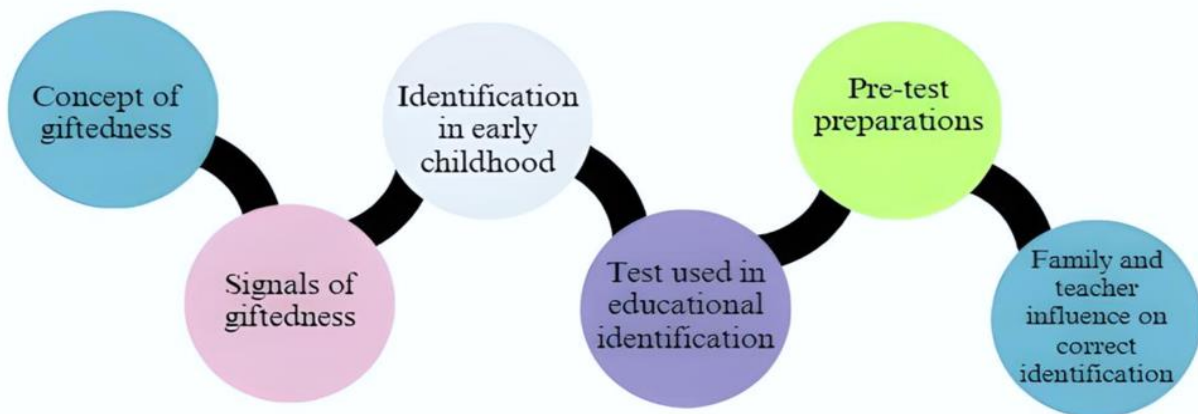


Figure 2. Themes related to the opinions of experts involved in the identification of children gifted in early childhood

It is seen that performing above average, being creative, problem solving, fast comprehension-learning come to the fore in the special ability definitions of the experts. Again, being a leader, thinking at a higher level, being interested in art, and being academically successful are also mentioned by the experts. Excerpts from the experts' opinions are given below:

In my opinion, special ability is a display of skills in some areas that are above the average accepted by the society (E1).

In my opinion, gifted individuals are individuals who learn faster than their peers, like to act independently, are curious, have high creativity capacity, leadership capacity, and exhibit a significant performance difference in terms of abstract thinking skills (E11).

Compared to their peers, they have high learning speed, developed creativity skills, high capacity in artistic and leadership issues, can interpret abstract ideas, act independently in subjects they have knowledge about, and show high performance in these areas of interest (E4).

Experts conduct interviews with the parents before administering the test to the child who comes for individual identification. During the interviews, they ask the parents questions to get to know the child and try to get to know the child better. Both during these interviews and their own observations, they have indicated some signals that they consider to be strong signals that the child is likely to be gifted. The opinions on these signals are presented in Table 2.

Table 2. Experts' views on signals of giftedness

Signals	f
Advanced language skills	11
Creativity	9
Higher order thinking	9
Questioning	7
Fast comprehension-learning	5
Looking from different perspectives	5
Overexcitability	4
Focusing	3
Visual perception	2
Performing above average	2
Early walking	1
Early speech	1
Imagination	1
Leadership	1
Total	61

Among the signals mentioned by the experts, receptive and expressive language skills, creativity, high-level thinking, inquisitiveness, rapid comprehension-learning, looking from different perspectives and hypersensitivity stand out. Excerpts from the experts' opinions are given below:

Good self-expression skills, high vocabulary, good visual perception, quick thinking and practical solutions, perspective on events, logical questions and high questioning skills make me think that a child is gifted (E2). Creativity, abstract thinking related to the field of interest, interpreting situations as they perceive them differently, the ability to analyze because of their talent, a higher skill in establishing cause and effect relationships, and an individual who is aware of themselves and contexts are in my opinion gifted (E3).

Characteristics such as imagination, functional receptive and expressive language, capacity for rapid comprehension, perspective on events, significantly

superior performance in a field compared to peers, leadership, and sensitivity make me think that a child is gifted (E7).

Experts also made statements about early childhood identification. All but one of the experts stated that early childhood identification is necessary and important. They also emphasized what should be considered in early childhood identification. The opinions of the experts on early childhood identification are given in Table 3.

Table 3. Experts' views on identification in early childhood

Identification in Early Childhood	f	
Necessary and important	To unlock potential	6
	For program differentiation	5
	For academic development	3
	For social and emotional development	3
	For planning	3
	Because it's a critical period	2
Total	22	
Unnecessary	Tests inadequate	1
	Play period	1
	Total	2
Things to watch out for	Family guidance should be provided	6
	The possibility of error in measurement should be considered	2
	Total	8
General Total	32	

Experts who considered identification necessary and important in early childhood drew attention to revealing potential, program differentiation, academic, social and emotional development, post-identification planning, and the critical period. Excerpts from the experts' opinions are given below:

I think that identification in early childhood is important because it is very valuable in terms of discovering children's talents, skills and capacities at an early stage and progressing in this direction, receiving education and developing (E14).

If gifted children are not identified, they have difficulties in school processes. From this point of view, early identification is a necessity in my opinion. If they can be identified in the preschool period, we will have the opportunity to differentiate educational practices (E6).

Early identification of gifted individuals has a very important place in terms of the measures to be taken and the plans to be made in the rest of the process (E4).

The expert who considered identification unnecessary in early childhood explained that this period is a play period, that a healthy determination cannot be made in this period, and that tests are insufficient to diagnose children in this period:

In the early childhood period, I believe that we should not be in too much of a hurry because children are mostly in the play period and our definition is more of an academic assessment. But if we consider it as 0-8 years old instead of 0-6 years old, then yes, the early childhood period may be more appropriate in the 6-8 age range, and I do not think that the measurement tools in the definition in the younger age group generally collect very healthy data in that age group (E12).

Although experts generally consider identification in early childhood necessary and important, they added that there are some issues to be considered in this process. In particular, they stated that families should be guided and underlined that the possibility of error in measurement should not be forgotten. Excerpts that may be examples of the experts' opinions are given below:

Early identification is very important, but there is also a social and psychological dimension, which can put pressure on the child from an early age. They expect much more than the child can do, like you are already superior. Both the family and the teacher can cause the child to be labeled (E10).

Early childhood years are the years when the development process is the fastest, and mental development is especially rapid in these years. Therefore, I see the possibility of errors in identification activities between the ages of 0-6 as high (E6).

Experts also expressed their opinions about the tests they used in educational identification. It is seen that there are two successive stages in the identification of gifted students. The first one is group screening with the help of tablets, and the second one is individual identification, which they referred to as "intelligence tests". Experts stated that the tests used in both individual and group identification have strengths and weaknesses. Experts' opinions on the tests used in identification are given in Table 4.

Table 4. Experts' views on tests used in educational identification

Educational Identification		f	
Strengths	Being multidimensional	5	
	Reliable and valid	2	
	Individual attention	1	
	Total	8	
Individual identification	Lack of healthy results in disadvantaged groups	15	
	Small dimensions	8	
	Weaknesses	Failure to consider cultural differences	8
		Dissemination of questions	5
	Out of date	1	
	Total	37	
Group identification	Strengths	Practical	2
		Economic	1
		Reliable and valid	1
	Weaknesses	Considering cultural differences	1
		Total	5
		Small dimensions	1
Lack of equal opportunity	1		
Total	2		
General Total	52		

When the table is examined, among their strengths, the experts highlighted the multidimensionality of the tests employed in individual identification, their validity and reliability as well as their tailored application. On the other hand, there were also those who thought that intelligence tests were not very inclusive as a weakness. All the experts pointed out that the tests can not measure disadvantaged groups properly. Specifically, in language-related questions, they stated that immigrant children failed because they could not comprehend the instructions and suggested the development of

scales that include disadvantaged groups. In addition, it was reported that the questions asked in the test were shared on the internet or other platforms. There was no confidentiality, children who came to the test saw the questions beforehand and therefore errors were introduced into the measurement. Excerpts from the experts' opinions are given below:

I use Anadolu Sak Intelligence Scale (Asis). Asis has many sub-dimensions; it is powerful in this respect (E9).

Keeping the norm broad, applying it many times and giving the same results. I can say that it is reliable (E7).

Among refugees and migrants, I think it negatively affects the outcome in children with poor language development and adaptation. I also think it significantly affects the outcome in children traumatized after traumatic events (E4).

In tests with a verbal dimension, we really have problems with refugees, migrants and minorities. I mean, especially in terms of language. This is a big problem. I think scale developers should pay attention to this (E13).

I have some problems with the tools. The confidentiality of the scales used has almost disappeared. In other words, the student who reaches the individual assessment stage in the definition can obtain data from the content of this scale outside and access these questions (E6).

Among the strengths of the group identification tests, the experts indicated that they were practical to administer, economical because they were administered to many people in a short period of time, provided reliable and valid findings, and took cultural differences into account. On the other hand, they emphasized that the questions were not very inclusive, measured few dimensions, and were not suitable for equal opportunity as not everyone had the chance to use the tablet beforehand. Examples of the experts' opinions are given below:

It provides the opportunity to identify more than one student at the same time. It provides practicality in tablet-based assessments compared to other tests. Its weaknesses are that it does not cover different abilities of students, and some students may not be able to show their real performance during the application process. It provides disadvantages for students with low economic level (E1).

The tablet application used in group identification is more appropriate. Independent of culture and language (E6).

It is understood from the opinions of experts that some preparations are made before the intelligence test. These preparations are made so that the child can show the best performance. The opinions of the experts regarding the preparation before the test are given in Table 5.

Table 5. Experts' views on pre-test preparations

Preparations	f
Creating an environment of trust	13
Information	11
Waiting to be ready	9
Determine if there is a physiological need	8
Organizing the test room according to the individual	4
Total	45

It is seen that the experts chatted about daily topics to make the children feel safe before starting the test and emphasized that this was not an exam in order to correct possible

misinformation of the child. In addition, it is understood that before the test, they check whether the child has any physiological needs; they organize the room, table and seat according to the child and wait for the child to feel ready. Excerpts that may be examples of the experts' opinions are given below:

Children usually come to the test with high anxiety and sometimes they get excited because they are young. I attach great importance to the first contact, when we make contact with the first child, I show a smiling face and act warm. I explain that this is not a test (E6).

I explain that we are going to do a study and that this is not an exam. I give information about the practice we will do (E3).

I start the test after making sure that his excitement has subsided, his toilet needs have been met, he has had a good night's sleep and his stomach is full (E5).

Experts said that they also consulted the views of the family and teachers in order not to make a decision based only on the test results. They stated that they examined the form received from the teacher before the test, if any, and tried to get to know the individual better by meeting with the family. The opinions of the experts regarding the influence of family and teacher on the correct identification are given in Table 6.

Table 6. Experts' views on the influence of family and teachers in correct identification

Family and teacher influence on correct identification		f	
Family	Positive impact	Facilitating expert judgment	10
		Facilitating individual recognition	8
		Increasing expert readiness	5
		Total	23
	Negative impact	Manipulating the expert	5
		Making it difficult to recognize the individual	3
		Total	8
No impact	No impact	1	
Total	1		
Teacher	Positive impact	Facilitating individual recognition	10
		Facilitating expert judgment	4
		Total	14
	No impact	No impact	1
	Total	1	
General Total		47	

When the table is analyzed, it is seen that the information received from the family enables the experts to get to know the child better and makes the decision to be made more valid. However, it is understood that some families try to mislead and manipulate the experts by making the child look different from what he/she really is because they want their children to be gifted. Excerpts that may be examples of the experts' opinions are given below:

Families mostly give information about the child's personal characteristics. I get information about the child's communication and behaviors in the home environment. This information helps me to know how to approach the child during the identification (E10).

Family information is very important. Without information from the family, making a decision based only on the test result may lead to mistakes (E15).

The information obtained from the family provides information about the child's personality, attitude and behavior. It increases the practitioner's readiness for the identification process (E3).

The family does not contribute much here (E12).

It is seen that the information the experts receive from the teacher is also useful. Likewise, a detailed information form from the teacher clarifies the expert's perception of the child and facilitates the decision to be made. Examples of the experts' opinions are given below:

The information we get from the teacher is actually more realistic. Because they do not have any blood ties here, they can make more objective observations and make more logical observations (E11).

I've always cared about the child's story. Because individuals may not always perform well. When we apply the scale, it may be one of them. Therefore, I think the history is an indispensable criterion in identification (E15).

When teachers recommend children here, they fill out a form. In general, this form does not help us much. They evaluate them according to their success in the class, they may not have much information about special ability. This is what I think at this point (E14).

Discussion, Conclusion and Recommendations

This study examined the opinions of experts involved in the identification of gifted children in early childhood. The first finding of the study is the meaning and definition of giftedness. In the study, the experts involved in identification generally defined giftedness as performing above average, being creative, problem solving, fast comprehension-learning. In addition, they also defined it as leadership, high-level thinking and artistic capacity, curiosity, hypersensitivity and acting independently. Considering the definitions, it is seen that the experts involved in diagnosis know what special ability is. Children who exhibit exceptional achievement in any one of the following areas general intellectual skills, special academic skills, leadership, creative and productive thinking, artistic and psychomotor skills or who have exceptional potential skills in any one of these areas are considered gifted, according to the Marland Report (1972). Special Education Services Regulation (MoNE, 2018) defines gifted people as those who learn more quickly than their peers, possess exceptional academic ability, creativity, artistic and leadership potential, and the ability to comprehend abstract concepts. They also like to act independently and perform at a high level. Considering these definitions, it can be said that experts involved in identification have general knowledge about special ability. As we emphasized at the beginning, the experts who took part in the identification process mostly emphasized the performance theme. This emphasis is also prominent in the study of Bildiren et al., (2020), in which they examined the views of preschool teachers on the concept of giftedness. However, it should not be forgotten that gifted children may not always be able to transform their potential into performance. As a matter of fact, Olszewski-Kubilius and Thomson (2015) emphasize that gifted children may have a potential talent, and this talent may turn into performance in the future. Hodge and Kemp (2006) examined the effectiveness rate of teachers' recognition of gifted students. In the study, it was found that students with

high achievement in the classroom were generally identified more frequently, but children who could not transform their talents into academic success were only seen as above average.

In the second finding of the study, the experts involved in identification indicated some signals that they considered to be strong signals of giftedness in early childhood as a result of their observations. Among the signals mentioned by the participants, receptive and expressive language skills, creativity, higher-order thinking, inquisitiveness, rapid comprehension-learning, looking from different perspectives and hypersensitivity stand out. In our research, participants emphasized language skills the most. In early childhood gifted children, original and meaningful verbal expressions and language development are expressed as the most prominent features that distinguish them from their peers (Porter, 2005; Perleth et al., 1993). In fact, Gross (1993) found that gifted children understand words better than their peers and older children, their speech is more complex and fluent, and they have advanced language development. In addition, studies have also revealed that gifted individuals in early childhood are sensitive to social issues, have a developed sense of morality and justice, learn easily and quickly, are curious, can make abstract connections and think differently (Bildiren, 2017; Cukierkorn et al., 2008; Piechowski, 1992).

In the third finding of the study, the participants also made statements about early childhood identification. All but one of the participants stated that identification in early childhood is necessary and important. They also emphasized what should be considered in early childhood identification. The experts who considered early childhood identification necessary and important pointed out the following as reasons, revealing potential, program differentiation, academic, social and emotional development, post-identification planning and the critical period. The participant who considered identification unnecessary in early childhood stated that this period is a play period, that a healthy determination can not be made in this period, and that tests are insufficient to diagnose children in this period. Although the participants generally considered identification in early childhood necessary and important, they added that there are some issues that need to be addressed in this process. They stated that families should be guided and underlined that the possibility of error in measurement should not be forgotten. Identification in early childhood is necessary and important in realizing the potential of the individual and making instructional planning (Chamberlin et al., 2007; Harrison, 2004; Jolly & Kettler, 2008; Pfeiffer, 2015). The majority of the participants also stated that identification in early childhood is necessary and important. In addition, Johnsen and VanTassel-Baska (2022) stated that accurate and appropriate identification is necessary for gifted students in early childhood to receive education appropriate to their level with differentiated programs. Early identification is considered very important for social and emotional development as well as academic and educational needs (Schofield & Hotulainen, 2004). The statements of experts who stated that identification in early childhood is unnecessary and insufficient have also been discussed in the previous research. Eker and Sari (2021) compared grade levels in the identification of gifted children according to expert opinions. The study shows that the process of identification at an early age has some disadvantages and limitations. This generally includes challenges related to the validity and reliability of the identification process. However, many experts believe that when these disadvantages are minimized with some additional

measures and appropriate instrumental arrangements, the advantages of early identification outweigh the disadvantages. The conclusions indicated that there are four distinct dimensions in which reducing the age of identification has drawbacks. According to the views of the participants, it was revealed that there were difficulties in the identification process at an early age in terms of students' ability to express themselves, their level of readiness for the identification process, their level of understanding the application instructions and their level of tolerance for the application period. In addition, Walsh, et al., (2010) state that there is hesitation about the reliability of identification in early childhood and that labeling children is inappropriate and a strong emotion.

In the fourth finding of the study, the participants also expressed their views on the tests used in educational identification. It is seen that there are two successive stages in the identification of gifted students. The first one is group screening with the help of tablets, and the other one is individual identification, which is referred to as "intelligence tests" in their words. Experts stated that the tests used in both individual and group identification have strengths and weaknesses. The strengths of the tests used in individual identification are that they are multidimensional, provide reliable and valid results, and are individually administered. On the other hand, there were some participants who thought that intelligence tests were not very inclusive as a weakness. All of the participants pointed out that the tests cannot measure disadvantaged groups properly. Especially in language-related questions, they stated that immigrant children failed because they could not understand the instructions and suggested the development of scales that include disadvantaged groups. Considering the provinces where the research was conducted, our provinces have the highest immigrant and refugee population. It is very valuable to eliminate the limitations of the test in terms of integrating the gifted immigrants and refugees who continue their education in Türkiye into the society. In addition, it was reported that the questions asked in the test are shared on the internet or other platforms, there is no confidentiality, children who come to the test see the questions beforehand and therefore errors are introduced into the measurement. Participants listed group screening tests' practicality, economy they may be given to a large number of people in a short period of time reliability and validity of the results, and consideration of cultural differences as some of its strengths. On the other hand, they emphasized that the questions were not very inclusive, measured few dimensions, and were not suitable for equal opportunity as not everyone had the chance to use the tablet beforehand. Although the identification tools used in early childhood have limitations, they are actively used in identification because they are multidimensional, and their reliability and validity studies have been proven. A previous study discovered that school administrators mostly stated performance measurement and teachers working in the field of giftedness stated standardized tests as the most important method in the identification of giftedness (Schroth & Helfer, 2008). Our participants mentioned that group intelligence tests are particularly practical and economical. Since group intelligence tests are less expensive than individual intelligence tests, they are frequently utilized as screening tools (Assouline, 1997). However, research generally does not recommend group intelligence tests for early childhood identification because individual tests are better measures of specific ability levels

than group tests (Gray, 1980; Sattler, 1992). Our participants also emphasized the weaknesses of the tools used in identification, and revealing and discussing these aspects are very valuable in terms of the quality of the tools to be developed in the future.

The most emphasized finding is the weakness of identification tools in measuring disadvantaged groups. Research shows that students from disadvantaged groups often perform poorly on assessments compared to other students (Erwin & Worrell, 2012; Vista & Grantham, 2009). In addition, the use of identification tools developed in Western countries may not take into account local and cultural concepts of giftedness, and this incompatibility can be problematic. Certain research findings indicate that evaluation instruments created for Western populations might not consistently be suitable for accurately identifying gifted students from other cultural backgrounds (Ford et al., 2008; Grant & Morrissey, 2021). Another weakness of identification tools may be related to the diversity of norm groups. Research indicates that there is no guarantee of equitable representation of ethnic, cultural, and linguistic minority groups in special education programs when intelligence tests, as they are currently designed and normed, are used to select students (Barkan & Bernal, 1991; Rogers & Oppenheimer, 1991). In his study with test developers, Valler (2016) reported that one particularly intriguing discovery was that many of the popular tests used to determine giftedness were not created with the gifted community in mind. Based on Howard Gardner's (1983) definition of intelligence or human intellectual competence, Maker (1996) emphasizes that it should be accepted that intellectual skills and competence may differ between cultural environments. He stated that there may be traditional differences in problem solving, problem identification, creativity, and product creation. Gardner's theory also holds that the identification and development of exceptional talent in linguistic, ethnic, and cultural minority groups depends critically on the cultural context. Maker (1996) also noted in his research that there is a need for diagnostic practices that are valid and reliable measures of the abilities found in and valued by various ethnic, cultural and linguistic groups. The suggestion of our experts that the scales should be developed that include disadvantaged groups seems to be in line with Maker's statements. In addition, in the 2014 update of the Standards for Testing in Education and Psychology, significant progress has been made in addressing and better understanding the concept of bias in more detail under the heading "Unbiasedness in Measurement". This update aims to increase sensitivity to the effectiveness and impartiality of tests. It identifies common types of bias in testing. For example, bias due to factors such as gender, ethnicity, cultural differences, language skills, etc. The update emphasizes the importance of accurate test sampling. Tests should include representatives from different demographic groups and include people with a range of abilities and skills. The update also emphasized the development of tests that are sensitive to cultural differences. Cultural adaptability emphasizes that tests should be designed and administered in a way that is appropriate to a person's cultural and linguistic characteristics (American Psychological Association [APA], 2014). Our participants emphasized the confidentiality of the questions in the identification tools. This is a sensitive issue that needs to be addressed in detail. With the development of technology, privacy risks may increase, but it should be kept in mind that more secure and protected solutions may also emerge.

Continuous review of security measures to protect the confidentiality of the tools and questions used in the identification of gifted children and the use of up-to-date versions of measurement tools increase the quality of the identification process. In parallel to this, Güçyeter and Sak (2020) stated that as a result of using outdated intelligence tests, more children may be identified as gifted than they actually are. This situation may lead to low validity of the identification and thus to educational and social problems. Although it has been banned in the last few years, a number of activities were carried out in unofficial institutions and platforms under the name of ASC preparation courses that prepared students for the identification processes at an early age for many years in Türkiye. As a result of this situation, unreliable results are likely to emerge in the identification process. The study reveals that one of the reasons for the confidentiality problem expressed by our experts is due to this reason. For this reason, it is considered very important that the Directorate General for Special Education and Guidance Services of the MoNE orders the closure of such courses.

In the fifth finding of the study, the views of the participants on pre-test preparation were revealed. It is seen that the experts talked about daily topics to make children feel safe before starting the test and emphasized that this was not an exam to correct possible misinformation of the child. In addition, it is understood that before the test, they agenda whether the child has any physiological needs; they organize the room, table and seat according to the child and wait for the child to feel ready. The Test User's Guide prepared by the International Test Commission (ITC) mentions a number of tasks that a qualified test administrator is expected to fulfill before administration (ITC, 2001). They are expected to make all the necessary preparations to prepare the person to be tested for the test, create the appropriate test administration environment and prepare the test materials. They should also properly inform the person or their legal representative about the content of the test and how the results will be used, explain their rights and responsibilities, and obtain explicit authorization from the test taker or their legal representative before any testing takes place (ITC, 2001). When this finding of our research is evaluated within the framework of the report prepared by the ITC, it shows that our participants are aware of their responsibilities. The preparations made by the participants are especially valuable for a child in the early period. This is because in this period, children may be affected by external factors more quickly and may not pay attention to the test. This may negatively affect the result of the test and may even lead to misdiagnosis. Ford and Dahinten (2005) showed that physical conditions such as objects that may distract the child's attention in the place where the test is applied, physical conditions such as temperature and humidity, and noise in the external environment during the application are among the reasons that negatively affect the application of intelligence tests in early childhood.

In the last finding of the study, the views of the participants on the effect of family and teacher views on the correct diagnosis were revealed. It is seen that the information received from the family enables the experts to get to know the child better and makes the decision to be made more valid. However, it is understood that some families want their children to be diagnosed as gifted, and they try to mislead and manipulate the experts by making the child look different than he/she really is. It is seen that the information the participants received from the teacher was also useful. Likewise, a detailed

information form from the teacher clarifies the expert's perception of the child and facilitates the decision. According to our participants, the information received from teachers and parents before diagnosis complemented each other and contributed to the process. While parents can better observe their children's speech development, behaviors and individual characteristics from birth, teachers can better observe children comparatively among peer groups. The use of these observations in the identification process is very valuable in terms of its contribution to the identification of giftedness in early childhood. Research also suggests that multiple criteria such as teacher and parent nominations, creativity assessments, and non-verbal assessments should be used for effective early identification (Davis et al., 2013; Kettler et al., 2017; Lohman & Foley-Nicpon, 2012; Pfeiffer & Blei 2008). Some of our participants mentioned that the information provided by some families was exaggerated and manipulated. This may be due to the fact that some families see giftedness as social acceptance and prestige. However, some studies indicate that families tend to underestimate their children's abilities (Ehrlich, 1980). Both exaggerated information by some families, as stated by the participants in this study, and underperforming information may negatively affect the identification process. Objective information provided by parents will contribute to the identification process. Numerous studies have demonstrated that parental observation can yield important information for identifying gifted young children when parents provide precise and accurate information about their young children's development (Fan, 2003; Pletan et al., 1995).

In line with the findings of the study, several recommendations were made.

1. In the identification tools to be developed, it is recommended to include a sufficient norm group from disadvantaged groups and to consider the language problems that arise in disadvantaged groups.
2. Due to access and confidentiality issues, it is recommended that updated versions of current intelligence tests be used and that confidentiality policies be reviewed.
3. In order to increase the quality of parent and teacher referrals, which play an important role in early identification, it is recommended that comprehensive programs and trainings on early giftedness be provided to families.
4. It is recommended that families should keep a diary of their children's development and behaviors that catch their attention since birth. This is because families sometimes forget the early behaviors and characteristics of their children. Precise information given to experts seems to increase the quality of identification in this period.
5. In Türkiye, it is seen that the methods and tools for identifying gifted students vary from year to year. At this point, it is recommended to introduce a systematized identification system that takes cultural values into consideration.

Despite all the contributions of this study, there are some limitations that should be considered in the interpretation of the current research. First, the results of this study are based on the personal perceptions of the interviewed experts and possible response errors. Also, as the interviews were conducted at one point in time, there may have been some difficulties in establishing cause-effect relationships, as no

long-term follow-up or experimental interventions were conducted. Likewise, as the interviews were conducted with experts in Gaziantep, Erzincan, Malatya and İstanbul, there is a possibility that the results of this study may not be fully representative of the general population. However, it is important to note that this study is based on qualitative research methods and therefore does not aim to generalise.

Author Contributions

Author Contributions all authors equally took part in all processes of the article. The completed version of the study was read and approved by all authors.

Ethical Declaration

The selection of study participants was optional. Additionally, they were told both orally and in writing that the information they provided would only be utilized for scientific research. Pseudonyms were assigned to the participants to guarantee their anonymity. Additionally, approval from the ethics committee was obtained prior to the study's commencement. Following the audit, approval was obtained for the study with the report from the Istanbul University Cerrahpaşa Social Sciences and Humanities Research Ethics Committee Presidency, dated 02.05.2023, bearing the E-74555795-050.01.04-686395 number and the Ethics Committee Approval No: 2023/199.

Conflict of Interest

The authors report no financial or personal relationships with any of the study participants or institutions.

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A Qualitative Study on the Challenges in Doctoral Education Encountered by Full-time Working PhD Students*

Tam Zamanlı İşte Çalışan Doktora Öğrencilerinin Doktora Eğitiminde Karşılaştıkları Zorluklar Üzerine Nitel Bir İnceleme

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**Sorumlu Yazar*

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Abstract: In recent years, there has been a substantial increase in the number of students enrolling in higher education institutions worldwide. In this respect, full-time working PhD students emerged as a new trend. However, working at a job while studying for a doctorate degree can be challenging. In this context, this research aimed to investigate the difficulties full-time working PhD students face in doctoral education. A phenomenological approach was used in this study. This study used the criterion sampling method to select a sample of full-time PhD students. The data was collected through semi-structured interviews with 20 participants, consisting of open-ended questions. According to the analysis of research data, the challenges experienced by full-time working PhD students during their doctoral education are "time management problems", "workplace problems arising from high expectations and negative attitudes", "transportation and attendance problems", "problems performing and focusing" "problems getting support and help". Individuals who work in a related field to the one in which they study, as well as those currently employed in higher education institutions, reported fewer challenges during their doctoral education. It has been determined that the most common problem is time management. Psychoeducation programs can be helpful to them to adapt to challenging time schedules.

Keywords: Higher education, PhD students, interpretive phenomenology, qualitative study

Öz: Yükseköğretime başlayan öğrenci sayısında son yıllarda büyük bir artış yaşanmaktadır. Bu anlamda, tam zamanlı bir işte çalışırken doktora öğrenimini sürdürmekte olan öğrenciler günümüzde yeni bir trend olarak ortaya çıkmıştır. Fakat bir işte çalışırken doktora eğitimini sürdürmek bireyler için oldukça yıpratıcı bir süreç olabilir. Dolayısıyla bu çalışma, en az bir yıldır aktif olarak doktora öğrenimini sürdürürken tam zamanlı bir işte çalışan öğrencilerin doktora eğitiminde karşılaştıkları güçlükleri incelemeyi amaçlamaktadır. Bu çalışma için fenomenoloji yaklaşımı kullanılmıştır. Örneklem seçiminde tam zamanlı bir işte çalışırken doktora eğitimini sürdürmekte olan bireylerin bulunması amacıyla ölçüt örneklem kullanılmıştır. 20 kişiyle gerçekleştirilmiş olan bu çalışmada verilerin elde edilmesi aşamasında açık uçlu sorulardan oluşan yarı yapılandırılmış görüşme formu kullanılmıştır. Araştırmadan elde edilen verilere göre tam zamanlı işte çalışan doktora öğrencilerinin doktora eğitiminde yaşadıkları zorluklar "zaman yönetimi ile ilgili sorunlar", "iş yerinin yüksek beklentisi ve olumsuz tutumu sonucu ortaya çıkan sorunlar", "ulaşım ve devamsızlık konusunda yaşanan sorunlar", performans gösterme ve odaklanma ile ilgili sorunlar", "destek ve yardım alma konusunda yaşanan sorunlar" altında toplanmaktadır. Doktora eğitimi aldıkları alan ile paralel bir alanda çalışmakta olan bireyler ile halihazırda yükseköğretim kurumlarında çalışan bireyler, doktora eğitiminde daha az sorun durumu yaşadıklarını bildirmişlerdir. En fazla yaşanan sorun durumunun ise zaman yönetimi konusunda olduğu tespit edilmiştir.

Anahtar Kelimeler: Yükseköğretim, doktora öğrencileri, yorumlayıcı fenomenoloji, nitel çalışma

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Introduction

In recent years, the number of university students has significantly increased, especially in Türkiye (Yavuzaslan et al., 2016). Similarly, this trend has emerged all over the world, and the number of people studying at universities has started to increase (Skaniakos et al., 2018). In this regard, Temel et al. (2023) report a considerable demand for PhD education. Today, there has been a significant global increase in the number of doctoral enrollments and graduates (Yılar, 2020a). For instance, between 1983 and 2003, the number of doctoral students in China surged from 18 to 188,000 within just 20 years following the awarding of its first doctoral degree (Zhuang, 2007). European Union (EU) nations produce approximately 100,000 PhD graduates annually, while the

USA produces around 53,000 (Halse & Mowbray, 2011). Thus, PhD education has gained great importance in higher education institutions.

According to the Higher Information Management System (2024), the number of master's students has fluctuated in the last ten years, while the number of PhD students has constantly increased. It also shows that until the 2019-2020 academic year, PhD students remained below 100 thousand. The number of these students has exceeded 100 thousand in recent years but has not decreased at all in the last ten years. These data suggest that the number of PhD students will continue to increase in the coming years and constitute a large population in higher education. The graph below was created based on the Higher Education Information Management System data.

* This study was presented at the 24th International Psychological Counseling and Guidance Congress

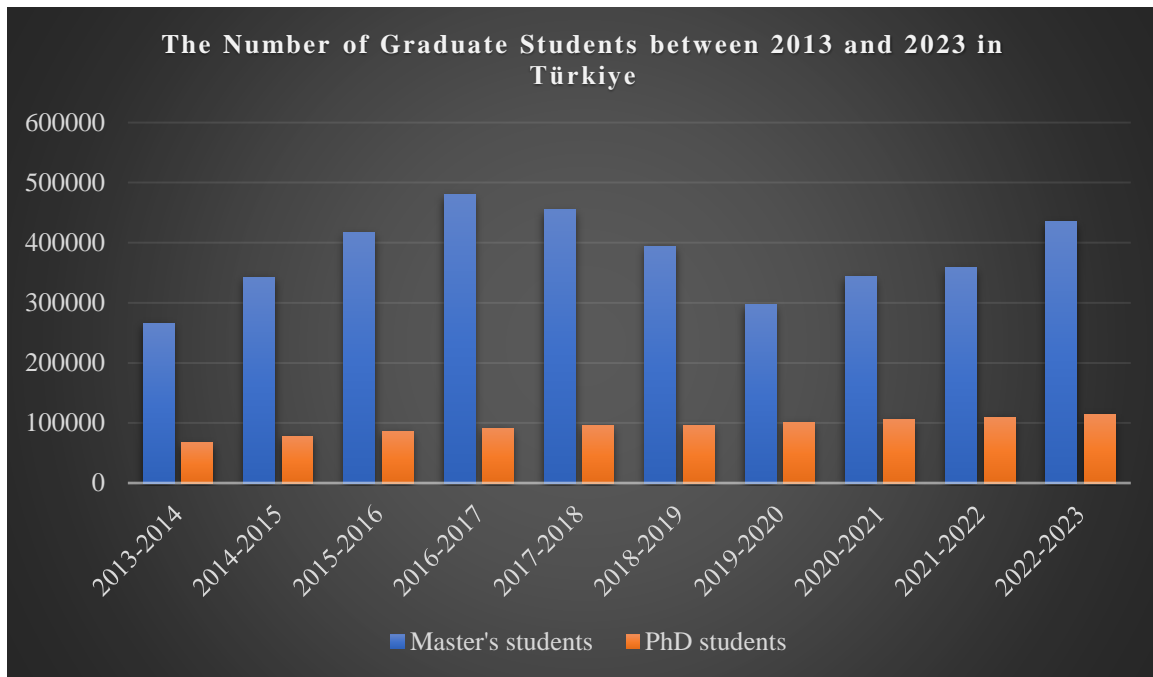


Figure 1. The number of graduate students between 2013 and 2023 in Türkiye

The quality of PhD students is as significant as their quantity. In parallel with the increasing number of PhD graduates in recent years, countries use these individuals to advance international competitiveness and the knowledge economy. Furthermore, universities have prioritized policies to ensure that PhD students do not drop out of their education and complete it on time (McAlpine et al., 2020). Despite all efforts, numerous studies show high doctoral dropout rates (Seçer, 2021). In this respect, Déri and Tremblay-Wragg (2022) report that the average doctoral education dropout rate is 50% across all disciplines worldwide. Career, family, and academic issues may play a critical role in the problems of PhD students (Mboniyirivuze et al., 2023). According to Mawson and Abbott's (2017) research, many doctoral students are pursuing professional careers along with their education. This can be attributed to the opportunities provided by higher education graduation, such as better income, higher status, and a wider range of jobs (Tural, 1995). Thus, full-time working PhD students are a new trend today.

Doctoral education can be challenging and stressful for individuals (Mackie & Bates, 2019) because a doctoral student should be able to think creatively and critically, use research methods, possess a good command of foreign languages, provide rational solutions to problems, conduct high-quality academic research, and make a significant contribution to humanity through their thesis (Yılar, 2020b). At the same time, working a full-time job brings extra burden and difficulty to PhD students. It is evident that these problematic situations negatively affect doctoral education. However, no up-to-date empirical study in the literature addresses the challenges experienced by full-time working PhD students in their doctoral education for the Turkish sample. An increasing number of full-time working PhD students reveals the necessity of examining this issue.

Working actively in a full-time job and continuing the doctoral education brings a tremendous financial and moral burden. As a result, problems can arise for both students and higher education institutions. For example, Tekneci (2016) states that the tendency of PhD students to disenroll and drop out of university is a crucial problem for higher education

institutions and these individuals. Different hypotheses can be put forward regarding why doctoral students leave their education unfinished, such as leaving education due to economic concerns and turning to a job or being overwhelmed by the problems that come with working in a job and not finding the strength to continue their doctoral education. However, today's increase in the number of employed individuals receiving doctoral education suggests the need to examine this issue.

There are various suggestions for improving the educational processes of doctoral students and reducing the problems they experience. Performance-oriented institutional policies are recommended for doctoral students to boost their doctoral education (McGill & Settle, 2012). On the other hand, too much emphasis on research performance in today's higher education system has transformed the concept of research from 'conducting research' to 'creating papers.' (Billot & Codling, 2013). Hence, performance-oriented institutional policies should be implemented in a balanced way.

Doctoral students' problems can be significantly reduced when they feel they belong to the scientific community they are in (Pyhältö et al., 2012). In this respect, doctoral students experience lower emotional exhaustion when they receive strong support from their faculty, have high-quality supervisory relationships, and work with experienced advisors (Hunter & Devine, 2016). Scientific communities that value doctoral students and create different opportunities for doctoral students by cooperating with firms reduce the problems of doctoral students (Thune, 2009). Additionally, equipping at an institutional level is seen as necessary for doctoral students in order to improve their doctoral education by preventing their problems (Carpenter, 2012). Maximizing the well-being of doctoral students is another critical element in improving doctoral education (Sverdlik et al., 2018). Similarly, Waight and Giordano (2018) emphasize that supporting mental health is essential in reducing the educational problems of doctoral students. Taken all together, the literature highlights the importance of academic and non-academic support in doctoral education.

In today's world, doctoral education is now subject to criticism that it is challenging for students to continue this process even by focusing only on education (Tucker et al., 2021; Tutar et al., 2021). In addition to doctoral education, a job in which students actively work affects their doctoral education as it takes up a significant portion of their time and energy. Since doctoral candidates play a very important role in the formation of the future of countries in terms of their fields of expertise, explanations should be made about taking the appropriate measures by the competent institutions and organizations and making possible legal arrangements in order to eliminate the obstacles that may adversely affect their education (Yılar, 2020a). This study will be helpful both for doctoral students to raise awareness on this issue and for policymakers to take precautions. Whittington and Barnes (2021) indicate that different trends may emerge in different countries of the world in terms of doctoral education. Since the number of full-time working PhD students is increasing in Türkiye, like in most countries, this study is crucial in identifying the problems experienced by PhD students and suggesting solutions.

Thus, the current article aims to investigate the views of full-time working PhD students on the challenges they encounter in doctoral education. Accordingly, the research problems of this study are as follows:

1. What are the views held by full-time working PhD students regarding challenges during their doctoral education?
2. What are the views held by full-time working PhD students regarding the impact of the workplace on their doctoral education?
3. What are the views held by full-time working PhD students regarding the impact of the coexistence of their working life and education life on their doctoral education?
4. What are the views held by full-time working PhD students regarding the fears and concerns on their doctoral education?

Method

Numerous studies have been conducted in the literature to address the problems PhD students face. However, individuals simultaneously studying for a doctorate and working full-time have been neglected. Because there is a limited number of studies on this subject, this study has employed a qualitative method to investigate the experiences of these individuals in depth. Within the scope of this study, in-depth interviews were conducted with full-time working PhD students to gain insight into their experiences. The study's sample was chosen using criterion sampling, a type of purposive sampling. For phenomenological studies, it is recommended that a criterion sampling technique be used while selecting participants. When the number of individuals experiencing the identified phenomenon is high, identifying criteria to select participants is a critical way to get rich information about the phenomenon (Creswell, 2007).

The evaluation of qualitative data was conducted using an interpretative phenomenological approach. This approach is related to comprehending how individuals perceive themselves and the world. In this sense, the lived experiences of individuals are the main concern for this approach (Moriah, 2018). The interpretative phenomenological approach aims to understand how individuals perceive their experiences and make sense of them (Smith & Fieldsend, 2021). For this

approach, the complexity and content of the meanings are more important in the analysis process rather than examining the frequency of specific meanings. Therefore, the researcher scrutinizes the transcript from an interpretative perspective (Prosek & Gibson, 2021).

According to Heidegger (1962), who is a representative of the interpretative phenomenological approach, individuals' realities are inevitably affected by the world they live in. People cannot isolate themselves from the world, and human subjectivity has no pure, unadulterated content. Therefore, interpretative phenomenology focuses on what people imply about their daily life experiences (Lopez & Willis, 2004). This study focuses on the detailed experiences of participants in a typical doctoral education and the meaning of these experiences for them. Interpretive phenomenology refers to looking at the meanings embedded in individuals' life experiences beyond simply describing concepts and their attributes. These meanings are not visible to the participants but are generated from their stories. Interpretive phenomenology focuses not on human experiences but on what people consciously know based on these experiences (Solomon, 1987). The interpretive phenomenological approach is an appropriate method for subjects where the participants' experiences are of primary interest and where limited studies have been conducted before (Munroe et al., 2016). That is why the interpretative phenomenological approach was used for this study.

Sample

This research involved 20 PhD students who were working full-time jobs. Participants were selected from those who had completed at least one year of doctoral education and worked full-time during this period. The duration expected from the participants in this study is critical in terms of predicting the formation of the experience. Since it is aimed at reaching the essence of the experiences related to the phenomenon, maturation of the experience is required in phenomenological research (Saban & Ersoy, 2016). Life experience is the state of consciousness that occurs as a result of a purposeful relationship of individuals with the phenomenon (Moustakas, 1994). The criteria for achieving this state of consciousness require participants to have experienced the phenomenon for a specific period of time, so participants were determined according to specific characteristics. The characteristics of the participants can be seen in Table 1.

Table 1. The characteristics of the participants

		n	%
Gender	Female	6	30
	Male	14	70
Marital status	Single	12	60
	Married	8	40
PhD Stage	Dissertation period	11	55
	Class Period	6	30
	Qualification period	3	15
Job	Psychological counselor	9	45
	Teacher	4	20
	Lecturer	2	10
	Research Assistant	2	10
	Enginer	3	15
Professional Seniority	1-5 year	12	60
	6-10 year	6	30
	11-15 year	2	10

All participants were expected to be active in doctoral education and work life for at least one year in order to convey their experiences effectively. The standards of doctoral programs in public universities in Türkiye are regulated by the same laws because they are all affiliated with The Council of Higher Education. Individuals from different professional groups are subject to the same standards in doctoral programs at public universities. Doctoral duration, doctoral stages, title received, and postdoctoral achievements are subject to the same regulations. In developing educational policies regarding higher education, revealing the experiences stemming from doctoral education standards in individuals is the first step in developing recommendations for policymakers. Similarly, the civil servant status determined for individuals working in the public sector carries certain conditions and defines rights such as academic leave during postgraduate education, so another important participant selection criterion is the experience of public employees in pursuing their doctoral education within the standards of the public sector. Thus, the participants are public employees who continue their doctoral education at public universities.

Before the study, the purpose of the research was explained to the participants in detail. Participants were informed that voice recording would be used during the interview, and they were assured that the data obtained would not be used for any other purpose. It was reported that the identity information of the participants will not be matched with the transcripts. Participants were informed that participation in the study was voluntary and that they could terminate their participation at any time. Voluntary consent forms were obtained from the participants. No participants withdrew during the interview. Interviews lasted approximately 15 minutes. Interviews were conducted between August and October 2023. The data collected through voice recordings were given numbers to keep personal information confidential.

Researchers

Researchers continue their doctoral education in the fields of guidance and psychological counseling and educational psychology. One of the researchers works as an expert psychological counselor in the Ministry of National Education and the other in the Ministry of Family and Social Services. The researchers have a long experience as full-time working PhD students. At the same time, researchers have been in dialogue with full-time working PhD students for many years.

For phenomenological research, it is crucial how the relationship is established between the individuals whose experiences are examined and the researchers who interpret these experiences. Researchers in this relationship need to suppress their prejudices and previous beliefs about the feelings and thoughts they are aware of to avoid undermining the research (Creswell, 2005). In this respect, Tufford and Newman (2012) indicate that bracketing is a method used by researchers to minimize the impact of their own preconceptions on qualitative research, making the research more rigorous. They also state that bracketing helps protect researchers from being overly influenced by emotionally challenging material, allowing for deeper reflection at every stage of the research process. Since the researchers had similar experiences with the participants, various discussions were held to explore their prejudices and beliefs arising from their experiences during the doctoral education. Researchers continued the study, taking these discussions into consideration. Therefore, researchers have bracketed their

biases. The researchers were careful to continue the study while being as aware of their biases as possible.

Data Collection Tool

In the research, a semi-structured interview form was developed to collect data. A detailed literature review was carried out during the preparation phase of the form. A question pool was created as a result of group work with the participation of researchers. After that, an interview form was created by selecting questions suitable for the purpose of the research. After two experts examined the questions, the necessary adjustments were made. A pilot application was carried out before the study to understand whether the questions in the created form were comprehensible. After the pilot application conducted with four participants, the interview form took its final form. The form was then applied to other participants without any changes.

In the interview guide, various topics related to work-life and doctoral education were addressed to detail the difficulties experienced by the participants in doctoral education. During the interviews, the responses of every participant were recorded. Transcripts of the audio recordings were created. The theme contents were analyzed. For ethical permission for the research, an application was made to Erzincan Binali Yıldırım University Educational Sciences Ethics Committee, and approval was obtained (Ethics Committee Decision Number: 08/02).

Questions included in the interview guide:

- You have been studying for your doctorate and working a full-time job for more than a year. What are the difficulties you have experienced during your education process while continuing both?
- In your opinion, how does working a full-time job during your doctoral education affect your education process?
- What does your workplace expect from you? How do these expectations affect your educational process?
- In what way and how was your life affected when you started to pursue your job and your doctoral studies together?
- Do you have fears and concerns about continuing your PhD studies along with your job? If so, what are they?

Credibility / Transferability / Consistency / Confirmability Studies

To ensure credibility in the research, the researchers conducted pre-interviews with participants to explain informed consent in detail. Then questions were asked to the participants. As in all qualitative studies, transferability is also essential in phenomenological research. Therefore, the field of research, the participants, and how the data were collected and analyzed should be explained in detail (Cilesiz, 2011). This study provided detailed explanations regarding the research process to ensure transferability. In this sense, the development of the data collection tool, the data collection and analysis, and the researchers' role are explained in detail.

The expert review technique is among the most helpful and widely used for credibility in qualitative research. In the expert review technique, the field expert can be asked whether the researchers interpreted the data reasonably and whether the results are consistent with the collected data (Merriam, 1995). In this research, an expert review technique was used to ensure the credibility of the data. Additionally, the coding made by each researcher was compared with that of the other researcher

to obtain reliable data. Furthermore, detailed reporting in qualitative research is considered an effective way to ensure credibility, and it is recommended to include sufficient information about the participants and direct quotations (Creswell, 2013). In this context, this study provides detailed information about the participants and includes direct quotations. Moreover, researchers have been careful to bracket themselves. They refrained from using researchers' biases and experiences in interpreting research data during the data interpretation process. Daytner (2006) indicates that prolonged engagement refers to investing a sufficient amount of time in the research setting. In this sense, researchers used prolonged engagement by spending a sufficient amount of time with participants to gain a better understanding.

Analysis Process

During the analysis phase, the statements of full-time working PhD students were divided into main and subcategories using the open coding method until no new categories emerged. Through the next step, axial coding, an attempt was made to establish a relationship between the codes carried out in the first step. The main themes were reached as a result of two cycles of coding. Quotations were made from the statements of full-time working PhD students while giving their opinions. The criteria for quotations are based on reflecting similarities.

Findings

The findings determined as a result of in-depth interviews with full-time working PhD students were discussed within the framework of the determined themes. These findings were also supported by quotes from the interview transcripts. After analyzing qualitative data, five themes were identified regarding the challenges full-time working PhD students face during their doctoral education. These are 1) time management problems, 2) workplace problems arising from high expectations and negative attitudes, 3) transportation and attendance problems, 4) problems performing and focusing, and 5) problems getting support and help.

Theme 1: Time Management Problems

The study participants reported that they mainly experienced time management problems during their doctoral education. Participants had positive thoughts about doctoral education and made positive attributes to doctoral education. In this sense, while very few participants stated the intensity of doctoral education as the reason for time management problems, most of the participants reported the intensity of the workplace as the cause. Additionally, participants emphasized that doctoral education is not just about homework and class attendance. They expressed their motivation to do extra academic work. However, they reported that they were content with fulfilling the mandatory and most basic responsibilities of doctoral education due to time management problems.

The expressions of the participants on this subject are as follows:

"I cannot find time for myself due to my intense work and academic schedule. This leaves me unable to pursue activities I enjoy, and my doctoral education suffers as a result."

"During my doctoral education, I have to complete homework and paperwork, including notes at the institution where I work. This creates a time management problem for me."

"Because of the demanding nature of my lectures and my job at the school, I faced difficulty in managing my time effectively. The coursework and assignments from teachers were particularly challenging to handle. As a result, I found myself with less time to focus on my personal life. I had to dedicate most of my time to school and doctoral courses, leaving me with very little time for myself."

"Due to working 8-5, I couldn't allocate sufficient time to master my subjects, which prevented me from mastering the subjects more."

"One of the significant challenges I encounter while pursuing my doctoral education alongside a full-time job is time constraint. Due to lack of time, my learning process suffers. Because I am in the field of social sciences, this has led to a decline in the quality and quantity of work that I produce."

"I mostly have problems with time management. I have meeting appointments at the school where I work. I sometimes have problems completing this on time along with doctoral education."

As a result of continuing work and doctoral education together, individuals do not have time for the activities they enjoy, which indirectly has a negative impact on doctoral education. When considering the sanctions individuals will face if they do not fulfill their work and doctoral responsibilities, hobbies are among the first to be sacrificed in case of time problems. Time problems force full-time working PhD students to make detailed priority planning and force them to make choices that will affect their doctoral education. For full-time working PhD students, both work and doctoral education create a time problem because they impose responsibilities that must be done on time. Instead of focusing on just one, both must be carried out in a balanced manner, and since both require significant effort, a time problem arises. When time problems occur, doctoral education is prevented from being productive.

Theme 2: Workplace Problems Arising from High Expectations and Negative Attitudes

Participants emphasized their co-workers and managers as critical influencers in maintaining motivation for doctoral education. All participants pursue doctoral education while working on weekdays. In this regard, work and doctoral education processes are highly linked for participants. For this reason, participants hold specific expectations from their colleagues and managers. Participants expressed these expectations as supportive, tolerant, and sensible attitudes. In this sense, workplace problems may demotivate participants towards the doctoral education process. Participants stated that their motivation for work decreases when they encounter negative attitudes and behaviors from their colleagues and managers about pursuing their doctoral education. Some participants indicated that their colleagues showed negative attitudes later towards them for the days they did not come to work while continuing their doctoral education. Encountering a negative attitude at work is likely to reduce participants' tolerance toward pursuing their education while working full-time simultaneously.

"Whether or not I could get permission from the school was a difficult situation for me. I had a problem getting permission from the head of the school to go to lectures. So, I could not say I could go to lectures comfortably whenever I wanted. I was constantly worried about getting permission from the head of my school."

"Since I am a civil servant, academic study is not encouraged much. They want me to do purely secretarial work. Sometimes we need to proctor exams, prepare and implement the program, and make presentations."

"My job description is to attend class. Nevertheless, I also have to fulfill the responsibilities given to me by the school. There may be extra tasks. These expectations inevitably have a negative impact on my education process because I spend extra time."

"The expectations of my workplace from me are to be able to achieve the goals, but sometimes, I can fail there because of my PhD. I don't do the work on time as expected from me. Sometimes, these can fail. Because of my negligence, I may have problems with the managers at work."

"I have to take leave from school. During this process, the workplace expects performance from me. They tell me at every opportunity that I need to concentrate on my work."

"The expectations of my workplace are sometimes not really realistic. I encounter situations that exceed my duties and responsibilities. But I still try to do my job well. Doing my job well and trying to continue my doctoral education all have a challenging effect on me."

Full-time working PhD students are concerned about getting permission to participate in doctoral education if they have a job that requires them to go every weekday. The fact that doctoral education is quite challenging on its own makes it even more difficult for individuals who have permission problems while participating in education. When leave is taken to attend doctoral education, the workplace has higher expectations from the employee in terms of performance in the workplace. While doctoral education is a newly emerging responsibility, increasing expectations of the workplace make doctoral education even more difficult. Also, the fact that the work done in the workplace is very unrelated to academic studies and is tiring reduces motivation for doctoral education.

Theme 3: Transportation and Attendance Problems

Some participants pursued their doctoral education in the same city where they lived, while others continued to do so in a different city. In this sense, participants evaluated the transportation issue as challenging regarding time and money. Moreover, participants reported varying employer attitudes toward taking leave from work for regular doctoral education attendance. Furthermore, participants whose workplace and the university where they received their doctoral education were in different cities expressed more difficulties in transportation and attendance to doctoral education. Some participants claimed they didn't attend classes regularly because their workplace would only permit their doctoral education for a few weeks.

"The biggest difficulty I have experienced is that the place where I work and the place where I do my doctorate are different places. Commuting here is a problem. It causes both financial and physical fatigue. For example, it would be easy if I had completed my doctorate at the same place I worked. But I work in a different city. The issue of commuting is my biggest difficulty in the PhD program."

"There were many difficulties, mainly in terms of transportation. I could not spare time for my own hobbies. Doctoral education was taking up a lot of my time. At the same time, since I do not have my own car, it was a waste of time, and I could not spare time for other things."

"Of course, working full-time and getting a doctorate education also had their problems. There were difficulties in terms of transportation and time."

"Since I continue to work, there is a problem with coming and going regarding my leaves. It's a problem because of the distance."

"The difficulties I experience are that I have to work within my working hours when there are lectures. Therefore, I have to stay at the institution for specific periods."

"My job and academic work schedule are very busy. Since I work at a school, I have problems with the leave processes related to my doctorate. Therefore, it is a very tiring process for me. Especially the process of getting permission from the school was a bit tiring."

When full-time working PhD students receive their doctoral education at a distant university, the efficiency of their doctoral education decreases due to the distance between their workplace and the place of their doctoral education. The proximity of the workplace and the university where the doctoral education is received is a great advantage in regular participation in doctoral education, as both of them require the individual to be present on certain days. Experiencing transportation problems also increases time problems because most of the individuals' time is spent traveling.

Theme 4: Problems Performing and Focusing

During their doctoral education, participants reported experiencing intermittent periods of loss of focus and decreased performance. They expressed high motivation for doctoral education but reported workplace anxiety negatively impacted their performance and focus on the responsibilities for doctoral education. Besides, participants indicated decreased energy and difficulty continuing their doctoral education due to negative attitudes from co-workers and work-related stress. In addition, participants highlighted that their work life not only takes up their time while they are at work but also keeps them occupied outside of work with various responsibilities. They also stated that struggling with obsessive thinking related to work-life further adds to their difficulties in staying focused on their doctoral education.

"Of course, I have problems focusing. I work with students, and there are divisions since I am a research assistant. I cannot focus on my PhD studies when I have any responsibilities because I do other jobs, such as secretarial, independent of my own work."

"I couldn't focus fully. I can't focus. I spend 8-9 hours a day in a workplace. I think the quality of education is low for me because I work a full-time job and cannot focus on my education."

"First of all, the difficulty I experienced during the education process is a factor that significantly reduces my educational performance while working a full-time job. In terms of quality, the time I spend on my work is decreasing."

"I have a concern about the decrease in the efficiency of doctoral education. I think that variables such as the attitude of the academicians and the advisor during the doctoral process greatly affected my anxiety, fear, and educational performance."

"It is necessary to compromise on times such as weekend holidays and evening time that you can devote to your family. Because you work so hard, you may feel bored or lose motivation from time to time."

"I had to postpone some essential issues in my life so that I could continue my doctoral education. Nevertheless, it is really exhausting to continue working together with doctoral studies."

For full-time working PhD students, the fact that their job is quite different from the field expertise in which they received their doctorate education means that they are largely divided. The significant differentiation of responsibilities and expertise between doctoral education and the workplace complicates the focus on doctoral education. Also, if the academic advisor has a negative approach, students' focus and performance on their doctoral education may decrease.

Theme 5: Problems Getting Support and Help

During their doctoral education, some participants expressed dissatisfaction with the lack of feedback their advisors and academics provided. Participants highlighted that because the doctoral education process is lengthy and has several stages, they sometimes feel lonely due to inadequate support. Most participants reported insufficient support from their workplaces for their doctoral education. Some of them emphasized that, contrary to the support from the workplace, they encountered negative attitudes such as jealousy, envy, and gossip that undermined their doctoral education. Some of them emphasized that they faced negative attitudes like jealousy and gossip when they expected support from their workplace. During their doctoral education, participants more highlighted the significance of the support they received from their workplaces.

"How will I write the dissertation? I constantly think. Can I complete my dissertation? Of course, I am going through a process that tires my mind. Am I adequate in terms of time management? I have numerous concerns. I sometimes worry about getting feedback from my advisor."

"If I worked at another job, I would be affected worse. For example, you see your advisor, your dissertation comes to your mind, and when that happens, it really excites you. Being in the same environment and working in the same environment encourages you in that sense."

"Our workplace generally has expectations that we complete our doctorate and publish. You already provide these in your doctoral education. Since I work at a university, doing a PhD also adapts to the expectations of the workplace."

"Unfortunately, my workplace does not want young people like us who are studying for a doctorate to come to the fore. Unfortunately, people at work do not want us to get a doctorate and move up."

Full-time working PhD students expect great support from academic advisors during their doctoral studies and rely on them to alleviate their concerns. Insufficient support in this sense can significantly increase their concerns about doctoral education. The fact that individuals receiving doctoral education work in a university environment and can frequently reach their academic advisors effectively reduces the difficulties in doctoral education. It is also important to motivate individuals more for their doctoral education. In addition to the support received, being close to the support and having the support easily accessible is beneficial for doctoral students. If there is a lack of support for doctoral education in the work environment, doctoral education will likely be negatively affected.

Conclusion, Discussion and Recommendations

This study aims to explain the challenges experienced by full-time working PhD students regarding doctoral education. After interviews were completed, the following five themes were identified: 1) time management problems, 2) workplace problems arising from high expectations and negative attitudes, 3) transportation and attendance problems, 4) problems performing and focusing, and 5) problems getting support and help.

Challenges in doctoral education arise from a multitude of factors influencing the daily life of full-time working PhD students. The most mentioned themes were time management problems and workplace problems arising from high expectations and negative attitudes. In alignment with the literature findings, this study found that full-time working PhD students have numerous problems affecting the quality of doctoral education (Déri & Tremblay-Wragg, 2022; Mbonyiriyuze et al., 2023; Seçer, 2021).

Long working hours may have a detrimental effect on individuals' motivation by reducing the energy and time they devote to doctoral education. Spending a large part of the day at work reduces focus on doctoral education. At the same time, it restricts PhD students' social life and prevents them from relaxing and being motivated. In professions where work-related responsibilities continue outside of work in addition to long working hours, it becomes more challenging to attend, focus, and perform in doctoral education. Currently, research performance is at the center of doctoral education and requires significant effort (Billot & Codling, 2013). Thus, high expectations and negative attitudes of the workplace carry the risk of reducing the efficiency of doctoral education.

It is evident that long working hours limit the time and energy PhD students can devote to their doctoral education. Merely attending class and fulfilling essential responsibilities are not enough for PhD students and countries. Doctoral education has a greater mission where extra scientific studies are expected. Since PhD students are expected to develop the knowledge economy by countries (McAlpine et al., 2020), there is a need for policymakers to introduce policies that make it easier for these students to devote more time and energy to doctoral education. PhD students who work 8-5 working hours report that the efficiency of their doctoral education decreases, so if countries want PhD students to contribute to the country's development by increasing scientific studies, it may be helpful to make working hour arrangements directly for these students. Today, there is no legal regulation binding on workplaces in Türkiye to support and encourage the extra academic studies of PhD students. More importantly, full-time working PhD students are sometimes prevented from attending classes by their workplaces, thus disrupting their doctoral education or demotivating them by exhibiting negative attitudes. The decrease in the problems experienced by doctoral students during the education process mostly depends on their well-being (Sverdlik et al., 2018). In this sense, when they feel supported, they feel less emotional exhaustion (Hunter & Devine, 2016). However, the negative attitude they receive and the prevention of their participation in doctoral education can cause their problems to become deep-rooted. Thus, it may be beneficial to ensure that participation in doctoral education is secured by law rather than left to the initiative of workplaces.

The lack of precise regulation regarding academic leave in Türkiye is a vital problem. Leaving the initiative to the administrative manager regarding academic leave and

prioritizing the workplace causes anxiety and stress in PhD students. Most participants emphasize that continuing their doctoral education while working a full-time job is very challenging. According to the literature, the dropout rate from PhD education is relatively high (Déri & Tremblay-Wragg, 2022). Hence, there may be a considerable number of individuals who cannot continue their doctoral education because they cannot obtain academic leave or who abandon their doctoral education due to a busy workplace. With binding legal regulations for workplaces, the continuity of doctoral education for full-time working PhD students can be effective in the long term. Until this urgent need is met and settled, short-term measures should be taken to prevent losing PhD students who are at risk of dropping out of their doctoral education. In this regard, increasing doctoral scholarships to a level that these students can sustain their lives may be beneficial for full-time working PhD students to quit their jobs and continue their doctoral education with this alternative when conditions require.

According to the findings of this study, individuals who work in a related field to the one in which they study, as well as those currently employed in higher education institutions, reported fewer challenges during their doctoral education. Expectations from individuals working in higher education institutions are parallel to the requirements of doctoral education. On the other hand, workplaces outside higher education institutions are far from displaying a similarly supportive attitude. There is a need to develop policies, especially for individuals working outside higher education institutions and simultaneously receiving doctoral education. It can be thought that co-workers and managers working in higher education institutions focus on scientific studies as a common goal. In this respect, when doctoral students' belonging to their scientific communities and workplaces increases, their educational problems tend to decrease (Pyhältö et al., 2012). On the other hand, while individuals outside higher education institutions are not encouraged to receive doctoral education, situations such as not coming to work to attend doctoral courses may cause them to be excluded.

Laws are fundamental elements that protect the rights of both employees and individuals receiving education. It may also be necessary for attitude change in the workplace because while duality does not arise regarding the rights regulated by law, negative attitudes may emerge more apparent in the absence of a precise regulation. For this reason, it may be an essential step to at least exclude participation in doctoral courses from the discretion of workplace managers in the form of academic leave.

Full-time working PhD students also have different roles outside of work and education. In parallel with the findings of Mbonyiriyivuze et al. (2023), this study found that the problems experienced in doctoral education arise from the combination of responsibilities brought by the different roles that PhD students have. According to this study, work-life significantly affects the doctoral education process. This study was limited to work and education status. Future studies may consider different variables such as marital status, socioeconomic status, and gender because the roles of PhD students may increase or decrease according to these factors. This study is limited to Türkiye, and it is crucial to address this issue in other countries due to differences in legal regulations and cultural elements. While there are very few private universities in Türkiye, the extra obligations of paid PhD education abroad should also be taken into consideration.

Effective policies can be created by making comparisons between countries.

As a result of the interviews, it may be recommended that full-time working PhD students be supported with psychoeducation programs on time management. It may be beneficial to create alternatives by providing more diverse scholarship opportunities to these students. Increasing and continuing programs such as "ÖYP", which was previously implemented but abolished in Türkiye, and "YLSY", which is still being implemented, may be valuable for PhD students to continue their education by receiving scholarships to focus on their doctorates. Increasing the number of job postings in higher education institutions for PhD students and encouraging them to work in their fields may be beneficial in terms of efficiently continuing their doctoral education. Studies need to examine how the obligations to complete a master's degree to become a specialist teacher and doctoral education to become a head teacher, stipulated by the Teaching Profession Act put into effect by the Ministry of National Education, change teachers' perceptions about doctoral education. Policies can be developed by measuring the effectiveness of today's Teaching Profession Act in practice. Evaluating the Teaching Profession Act in terms of its contribution to teachers' perspectives on doctoral education is crucial. Similarly, enacting laws that encourage doctoral education for other professional groups may be beneficial.

The findings of the study show that full-time working PhD students have difficulties in their doctoral education and reveal the necessity of regulations that facilitate their participation in doctoral education for individuals working outside higher education institutions. During this process, they should be supported in terms of time management and mental health problems. There is a need to make arrangements for full-time working PhD students to attend PhD courses. By ensuring harmony between the family member, employee, and student roles of full-time working PhD students, workplaces and their families should be encouraged to support the doctoral education of these individuals. Thus, support programs should be developed considering the different individual needs of full-time working PhD students.

Author Contributions

All authors took an equal part in all processes of the article. All authors have read and approved the final version of the study.

Ethical Declaration

This study was conducted with the approval decision taken at the Ethics Committee for Educational Sciences (Protocol No. 08/02) of Erzincan Binali Yıldırım University, dated 28.08.2023.

Conflict of Interest

The author(s) declare that there is no conflict of interest with any institution or person within the scope of the study.

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Predicting Online Gambling Addiction with the Dark Triad Traits Karanlık Üçlü Özellikleriyle Çevrimiçi Kumar Bağımlılığını Tahmin Etmek

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Abstract: Gambling poses new risks for individuals due to technological developments and easier and faster access to online games. The increase in participation in online gambling activities such as betting and games of chance further increases the prevalence of gambling and the risk of addiction. Identifying risk groups and factors is critical to prevent these harmful activities with adverse psychosocial and economic consequences. This study aimed to investigate the effect of gender and dark personality traits on online gambling addiction. Data were obtained from 376 Turkish university students (M = 20.40, SD = 1.96). The current study revealed the tendency of men towards online gambling addiction. 93% of participants were above the addiction score threshold. The findings showed a positive association between narcissism and psychopathy and online gambling addiction and no relationship between Machiavellianism and this addiction. Narcissism and psychopathy personality traits were determined to be risk factors for online gambling addiction. Since this study identified that men and students with the personality traits of narcissism and psychopathy are prone to online gambling, interventions with these groups may help prevent the negative consequences of online gambling before they occur.

Keywords: The Dark Triad traits, narcissism, machiavellianism, psychopathy, online gambling addiction, university students

Öz: Kumar, teknolojik gelişmeler ve çevrimiçi oyunlara daha kolay ve hızlı erişim sağlanması nedeniyle bireyler için yeni riskler oluşturmaktadır. Bahis ve şans oyunları gibi çevrimiçi kumar faaliyetlerine katılımın artması, kumarın yaygınlığını ve bağımlılık riskini daha da artırmaktadır. Olumsuz psikososyal ve ekonomik sonuçları olan bu zararlı faaliyetlerin önlenmesi için risk gruplarının ve faktörlerinin belirlenmesi kritik öneme sahiptir. Bu çalışma, cinsiyet ve Karanlık Üçlü kişilik özelliklerinin çevrimiçi kumar bağımlılığı üzerindeki etkisini araştırmayı amaçlamıştır. Veriler 376 Türk üniversite öğrencisinden elde edilmiştir (M = 20.40, Ss = 1.96). Mevcut çalışma erkeklerin çevrimiçi kumar bağımlılığına olan eğilimini ortaya çıkarmıştır. Katılımcıların %93'ü bağımlılık puan sınırının üzerindedir. Bulgular narsisizm ile psikopati ve çevrimiçi kumar bağımlılığı arasında pozitif ilişki olduğunu ve Makyavelizm ile bu bağımlılık arasında herhangi bir ilişki olmadığını göstermiştir. Narsisizm ve psikopati kişilik özelliklerinin çevrimiçi kumar bağımlılığı için risk faktörü olduğu belirlenmiştir. Bu çalışma, erkeklerin ve narsisizm ve psikopati kişilik özelliklerine sahip öğrencilerin çevrimiçi kumara yatkın olduğunu belirlediğinden, bu gruplara yönelik müdahaleler, çevrimiçi kumarın olumsuz sonuçlarının ortaya çıkmadan önce önlenmesine yardımcı olabilir.

Anahtar Kelimeler: Karanlık Üçlü kişilik özellikleri, narsisizm, makyavelizm, psikopati, çevrimiçi kumar bağımlılığı, üniversite öğrencileri

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Introduction

The prevalence of gambling among individuals is of concern in the fields of public health and addiction. Gambling can be defined as betting on something of value, such as money, where the outcome is by chance (Ladouceur, 2002). Easier and faster access to games through technological developments leads to an increase in online gambling rates, and preventing gambling becomes more difficult. It has been reported that 10% of offline gambling has been replaced by online gambling, and the likelihood of becoming a problem gambler has increased by 8.8-12.6% (Effertz et al., 2018). Although some of these games and bets are age-restricted or illegal activities in most countries, online sites have made it easier to access such activities, and subsequently, the prevalence rate and risk of gambling disorder are increasing (González Bueso et al., 2021). More importantly, individuals are constantly exposed to advertisements which lead to monetary spending on gambling activities or problematic gambling (Kristiansen & Severin-Nielsen, 2022). Thus, individuals' participation in these risky activities raises concerns.

Similar to other countries, studies in Türkiye have shown that economic crises, financial difficulties, low-income levels, and debts make gambling attractive and that individuals turn to gamble to improve their quality of life, add joy and attraction to their lives, seek excitement, get rid of stress, and

earn money (Çelik, 2016; Vayisoğlu et al., 2019). In addition, online gambling may lead to psychological, social, and academic problems. A study revealed that participants who engaged in online gambling became depressed, experienced sleep problems, and had difficulty concentrating in classes due to the addictive potential of online gambling (Amoah-Nuamah et al., 2023). Problem gambling has also been identified as a potential risk factor for suicidality (suicidal thoughts and suicide attempts) for both genders (Wardle & McManus, 2021). These results demonstrate the harmful and even irreversible effects of online gambling on individuals due to its easily accessible nature.

The term Dark Triad includes three socially aversive traits: narcissism, Machiavellianism, and psychopathy. Narcissism refers to a personality that is self-centered, self-aggrandizing, dominant, entitled, and manipulative. Narcissists have inflated perceptions of themselves, but the opposite is true for others. Since this personality has a low communion ability, their perceptions of others are deflated (Sedikides et al., 2013). Machiavellianism is a personality trait characterized by individual differences in manipulateness, insincerity, and callousness (Christie & Geis, 2013). Machiavellians plan for the future, form alliances, and strive to maintain a positive reputation (Jones & Paulhus, 2014). The psychopathy trait can be defined as the callous, ruthless manipulation and

exploitation of others. Psychopaths exhibit impulsive behavior, abandon people around them, such as friends and family, and their reputation is not very important (Hare & Neumann, 2008). This personality type can be considered as a psychological cause of antisocial and criminal behavior (Hare et al., 2013). Although the origins of the Dark Triad are different, this leads to socially malevolent characters with tendencies towards self-promotion, emotional coldness, hypocrisy, and aggression (Paulhus & Williams, 2002). Furthermore, the subclinical prevalence of the Dark Triad is assumed to be much higher than the prevalence of clinical levels of the Dark Triad (Wu & Lebreton, 2011).

Previous literature has shown a clear link between the Dark Triad traits and behavioral addictions. A study with undergraduate students showed that high narcissism, high Machiavellianism, and high psychopathy personality scores had an impact on susceptibility to internet addiction (Lee & Lim, 2021). Instagram addiction, social media addiction, problematic smartphone use, and gaming disorder were predicted by these traits (Demircioğlu & Göncü Köse, 2021; Nikbin et al., 2022; Servidio et al., 2021; Tang et al., 2020). These studies highlight the Dark Triad traits as a potential risk factor for addictive behaviors.

Machiavellianism, characterized by strategic planning and manipulation, is not expected to be associated with gambling because it is not associated with impulsivity and risk taking (Jones & Paulhus, 2011). The associations of narcissism and psychopathy with gambling may be explained by a combination of risk-taking tendencies (Jones & Paulhus, 2011), sensation-seeking tendencies (Emmons, 1981; Marcus et al., 2013) and cognitive biases in assessing risk (Foster et al., 2009). Narcissistic individuals share several characteristics in common with high sensation seekers, such as needing variety, being autonomous, dominant, and grandiose (Emmons, 1981). Since psychopathy involves fearless dominance and self-centered impulsivity, individuals with this trait may violate social norms and have sensation-seeking tendencies (Marcus et al., 2013). On the other hand, narcissists' risk-taking behaviors are associated with increased perceptions of benefits resulting from risky behaviors (Foster et al., 2009). In addition, narcissism and psychopathy were associated with behavioral risk, but Machiavellianism was not associated with risk-taking (Jones & Paulhus, 2011). Indeed, manipulation and callousness lie at the core of the Dark Triad. When these are combined with the characteristics of narcissism and psychopathy personality types, it becomes clear that individuals are willing to take risks. Although Machiavellianism is also a personality trait of manipulation and insensitivity, strategy and long-term planning are important for these individuals (Malesza & Ostaszewski, 2016). Therefore, they may not engage in risky behavior such as online gambling.

Emerging adulthood is roughly between the ages of 18 and 25, including adolescence and young adulthood (Arnett, 2000). In this developmental period, which corresponds to the university years, individuals begin to gain autonomy and there are changes in normative expectations regarding their social roles and behavior. Sussman and Arnett (2014) stated that this age range is the period when risky behaviors are most tolerated and, in some cases, encouraged, so it is possible for some substance and behavioral addictions to emerge during this

period. Accordingly, we conducted our study based on this age range. In addition, there are studies regarding the link between personality traits and online activities, problematic internet use, online game addiction, and gambling (Kim et al., 2008; Kircaburun & Griffiths, 2018). For example, neuroticism, openness, and impulsivity were associated with pathological gambling (Myrseth et al., 2009). A study with adults showed that narcissism, Machiavellianism, and psychopathy were positively related to the blackjack task (Refaie et al., 2024). Another study with undergraduate students who identified as sports gamblers investigated the relationship between Dark Triad traits and problem gambling (Onyedire et al., 2021). Considering these studies, it appears that they focus on offline gambling, or the sample of these studies consists of gamblers or a wide age range. It is known that the use of online gambling has become widespread among people who are very interested in gambling, that for some, this environment significantly contributes to gambling problems (Gainsbury, 2015), and that emerging adulthood is a critical period for this risky behavior. However, to our knowledge, little attention has been paid to the Dark Triad traits (narcissism, Machiavellianism, and psychopathy) of online gambling users, and there is no research in both domestic and international literature including the relationship between these traits and online gambling addiction, especially in emerging adulthood. To address this gap, in this study, we aimed to investigate the effect of gender and dark personality traits on online gambling addiction. To this end, the following hypotheses were generated:

H1: There would be a significant gender difference in online gambling addiction.

H2: Narcissism and psychopathy would predict online gambling addiction, while Machiavellianism would not predict online gambling addiction.

Method

Participants

The required sample size for this study was determined using G*Power software version 3.1. 9.7. A priori power analysis calculated that a sample size of 119 participants was required for a medium effect size ($f^2 = 0.15$) at an alpha of 0.05 to achieve a power of 0.95 (Cohen, 2013). 376 participants were reached. The power analysis was repeated with the same criteria using a post hoc procedure, and the power of the sample size ($1-\beta$ error probe) was calculated as 0.99. This value indicates that the sample had adequate power.

376 university students aged 18-25 participated in the research. The mean age was 20.40 years ($SD = 1.96$). Table 1 presents the demographic characteristics of participants. 191 (50.8%) of the students were women, and 185 (49.2%) were men. 136 (36.2%) of the participants were freshmen, 79 (21.0%) were sophomores, 51 (13.5%) were juniors, and 110 (29.3%) were senior students. 102 (27.1%) participants were from low-income families, 220 (58.5%) participants were from middle-income families, and 54 (14.4%) participants were from high-income families. 182 (48.4%) students stated that they were interested in games of chance or betting advertisements, and 190 (50.5%) students reported that they were willing to earn money by online gambling. 182 (48.4%) students stated that they gambled online within a year.

Table 1. Demographic characteristics of participants

		N	%
Gender	Women	191	50.8
	Men	185	49.2
	Freshman	136	36.2
Education	Sophomore	79	21.0
	Junior	51	13.5
	Senior	110	29.3
Income	Low	102	27.1
	Moderate	220	58.5
	High	54	14.4
Interest in games of chance or betting advertisements	Yes	182	48.4
	No	194	51.6
Willingness to make money by online gambling	Yes	190	50.5
	No	186	49.5
Online gambling in a year	Yes	182	48.4
	No	194	51.6
Total		376	100.0

Measures

Dirty Dozen Scale: Jonason and Webster (2010) developed the scale, and Satici et al. (2018) adapted the scale into Turkish culture. The scale measures the extent to which individuals are prone to the Dark Triad personality traits. The 12-item scale is a 9-point Likert type ranging from 1 = strongly disagree to 9 = strongly agree. The scale consists of three dimensions: narcissism, Machiavellianism, and psychopathy. Each sub-dimension consists of 4 items, and the scores that can be obtained from the sub-dimensions vary between 4 and 36 points. High scores indicate a tendency towards the high Dark Triad traits. Example items are "I tend to manipulate others to achieve my own goals.", "I don't regret what I've done." and "I expect special attention from others.". The Cronbach's Alpha coefficients were obtained as 0.87 for narcissism, 0.79 for Machiavellianism, and 0.71 for psychopathy. For this study, the Cronbach's Alpha coefficients were calculated as 0.83 for narcissism, 0.84 for Machiavellianism, and 0.72 for psychopathy.

Online Gambling Addiction Scale: Karaibrahimoğlu et al. (2021) developed the scale. The scale aims to measure online gambling addiction. The 21-item scale is a 5-point Likert type ranging from 1 = never to 5 = always. The scale consists of three dimensions: motivation, addiction, and negative psychology. The total score that can be obtained from the scale varies between 21 and 105. The cut-off value is 27 points, and scores higher than this indicate internet gambling addiction. Example items are "I gamble/play games of chance on the internet to earn money.", "I have difficulty in controlling online gambling/games of chance." and "I think that gambling/games of chance on the internet negatively affects my daily life.". The Cronbach's Alpha coefficient was obtained as 0.92. For this study, the Cronbach's Alpha coefficient was calculated as 0.95.

Procedure

Using Google Form, an anonymous online survey form was created. Data were collected using the convenience sampling method, which is a sampling procedure aimed at reaching people in the most suitable situation. The inclusion criteria for the study were being between the ages of 18-25 and being a university student. The researcher collected data from volunteer participants by sending a link to group representatives of classes at a state university. The form was sent to the participants after the researcher informed them

about the content of the study and the rights of the participants. A consent form was obtained from the participants. The ethics committee of Agri Ibrahim Cecen University approved this study (Ethic Code: 98263).

Data Analyses

This study was carried out with the relational scanning model, which aims to determine the change between two or more variables and the effects of these variables on each other (Karasar, 2007). Cronbach's alpha values were calculated. Kurtosis and skewness values of all scales were examined for normality assumptions of the data with acceptable values between +1.5 and -1.5 (Tabachnick et al., 2013). Gender differences in online gambling addiction were examined by T-test for independent groups. The relationship between dependent (online gambling addiction) and independent variables (narcissism, Machiavellianism, and psychopathy) was examined by Pearson Correlation Analysis. After the necessary criteria for regression analysis were met, the predictive power of Dark Triad personality traits on online gambling addiction was examined by Multiple Linear Regression analysis. Analyses were performed with SPSS version 27. The statistical significance value was accepted as $p < 0.05$.

Results

Table 2 presents means, standard deviations, skewness and kurtosis values, and correlations. It was determined that the mean scores of online gambling addiction ($\bar{X} = 47.70$, $Sd = 18.76$, $min. = 24.00$, $max. = 93.00$) were above the cut-off score of the scale, 27 points. 93% of the participants were above this value. This showed that participants may be prone to online gambling addiction. Skewness values were between 0.28 and 0.95, and kurtosis values ranged between -0.14 and -1.14. These values indicated that there were no values that violate the normality assumption. Correlation analysis results showed that narcissism ($r = 0.60$, $p < 0.001$) and psychopathy ($r = 0.65$, $p < 0.001$) had significant positive correlations with online gambling addiction. Machiavellianism ($r = 0.06$, $p > 0.05$) had no significant correlation with online gambling addiction. Narcissism had a positive correlation with Machiavellianism ($r = 0.12$, $p < 0.05$) and psychopathy ($r = 0.64$, $p < 0.001$). Machiavellianism had a positive correlation with psychopathy ($r = 0.21$, $p < 0.001$).

Table 2. Mean, standard deviation, skewness, kurtosis, and correlations

Variables	M	SD	Skewness	Kurtosis	Correlation			
					1	2	3	4
1. Narcissism	16.03	7.85	.28	-1.14	-			
2. Machiavellianism	14.00	7.33	.76	-.61	.12*	-		
3. Psychopathy	13.45	6.24	.72	-.14	.64**	.21**	-	
4. Online gambling addiction	47.70	18.76	.95	-.47	.60**	.06	.65**	-

Notes: M = mean, SD = standard deviation, *p < 0.05, **p < 0.001.

Table 3. Independent sample t-test scores in terms of gender

	Gender	N	\bar{x}	Sd	df	t	p
Online gambling addiction	Women	191	40.34	15.37	354	-8.394	.00**
	Men	185	55.30	18.94			

Notes: \bar{x} = mean, Sd = standard deviation, df = degrees of freedom, **p < 0.001.

Table 4. Multiple linear regression analysis results on the Dark Triad traits variable as predictors of online gambling addiction

Variable	B	SE	β	t	p	Zero-order r	Partial r	LB UB 95% CI	
Constant	19.48	2.03		9.577	.00**			15.48	23.48
Narcissism	.72	.11	.30	6.279	.00**	.60	.31	.50	.95
Machiavellianism	-.19	.09	-.07	-1.958	.05	.06	-.10	-.38	-.01
Psychopathy	1.42	.14	.47	9.594	.00**	.65	.44	1.13	1.71
R = .701		R ² = .491							
F _(3,372) = 119.638		p = .00**							

Notes: B = unstandardized coefficient, SE = standard error, β = standardized coefficient, **p < 0.001.

Table 3 presents the results of whether there was a gender difference in online gambling addiction. T-test results showed that there was a gender difference ($p < 0.001$). When the difference was examined in terms of gender, it was determined that men had statistically significant higher scores on the online gambling addiction scale ($t_{354} = -8.394$, $\bar{X} = 55.30$, $p < 0.001$). In addition, it was determined that the online gambling addiction scores of women ($\bar{X} = 40.34$) and men ($\bar{X} = 55.30$) were above the cut-off score of 27. It was also determined that 89% of women ($n = 170$) and 98% of men ($n = 182$) were above the cut-off score.

Table 4 presents Multiple Linear Regression analysis results. Cohen (2013) determined the correlation coefficients as a small relationship between .10 and .29, a moderate relationship between .30 and .49, and a strong relationship between .50 and 1.00. When the correlations and partial correlations between the predictor variables and the predicted variable were examined, a positive, significant, and strong relationship was found between online gambling addiction and narcissism ($r = .60$, $p < 0.001$) and psychopathy ($r = .65$, $p < 0.001$). No relationship was determined between Machiavellianism and online gambling addiction ($r = .06$, $p > 0.05$). When the other variable was controlled, it was observed that there was a positive, significant, and moderate relationship between online gambling addiction and narcissism ($r = .31$, $p < 0.001$) and psychopathy ($r = .44$, $p < 0.001$). A positive significant relationship was found between online gambling addiction and narcissism and psychopathy variables ($R = 0.701$, $p < 0.001$). These two variables together explained 49% of the total variance in online gambling addiction ($R^2 = 0.491$). The standardized regression coefficients showed that the relative importance of the predictive variables on online gambling addiction was psychopathy ($\beta = 0.47$) and narcissism ($\beta = 0.30$).

Discussion

Online gambling is a common phenomenon among university students. It is essential to determine the predictors of this harmful habit. This study found that men were at greater risk of online gambling than women. The majority of university students were above the online gambling addiction threshold. In addition, narcissism and psychopathy predicted online gambling addiction, but Machiavellianism did not. These results indicate a tendency for men and people with narcissistic and psychopathic personality traits to have online gambling addiction.

The results of this study revealed that men were more prone to online gambling addiction than women. This result is consistent with previous studies providing evidence that the prevalence of gambling, in general, is higher in men than in women. For example, Blanco et al. (2006) found that the lifetime prevalence rate of pathological gambling is higher in men than in women due to differences in social norms and biological underpinnings. Similarly, men were more likely than women to engage in disordered gambling (Trombly & Zeigler-Hill, 2017). Therefore, it should be taken into consideration that men's gambling tendency may be exacerbated by online applications and preventive studies should be prioritized.

This study found a positive relationship between narcissism and psychopathy and online gambling addiction and no relationship between Machiavellianism and online gambling addiction. Narcissism, and psychopathy predicted online gambling addiction, Machiavellianism wasn't the predictor of this addiction. One possible reason for this result is that narcissism and psychopathy were associated with financial risk-taking, but Machiavellianism had no connection (Sekścińska & Rudzinska-Wojciechowska, 2020). Gambling is an activity that requires taking risks (Mishra et al., 2010). Therefore, individuals with high Machiavellian personality traits who engage in long-term strategic planning with a cold

and cynical worldview may not prefer online gambling because they avoid taking risks. In empirical research, past studies have presented conflicting results regarding the relationship between Dark Triad traits and gambling. Trombly and Zeigler-Hill (2017) determined a positive relationship between narcissism and psychopathy and gambling disorder, as well as a positive relationship with Machiavellianism, which contradicts our results. Another study showed that psychopathy was positively related to problem gambling, narcissism had a negative relationship, and Machiavellianism was not associated with problem gambling (Onyedire et al., 2021). These different findings emphasize that the mechanism underlying the Dark Triad traits and gambling relationship needs to be further investigated. One possible reason for these different results may be culture. A cross-cultural study determined that culture influences the Dark Triad traits (Aluja et al., 2022).

According to Sedikides et al. (2013), narcissists can derive meaning from three areas: achievement, materialism, and reflections of glory. Narcissists are preoccupied with success, vanity, and victory. The reason for this is that these orientations instill positivity into their self-system by making them feel special, strong, important, and successful. They may also do this to compensate for internal fragility. In addition, it can be said that narcissists probably cannot gain the admiration they desire, feel excluded, feel unloved by others, and experience problematic social relationships in which they cannot have a pleasant and fun time (Nikbin et al., 2022; Twenge & Campbell, 2003). Therefore, online gambling may offer an opportunity for them to turn to alternatives that can meet their needs that cannot be met in offline environments, gain admiration, and feel successful.

The personality type whose basic elements are manipulativeness, callous affect, and strategic calculation is Machiavellianism (Jones & Paulhus, 2014). In particular, Machiavellians are strategic, not impulsive (Jones & Paulhus, 2011). They do not engage in behavioral tactics that could be perceived as weakness and damage their reputation (Shepperd & Socherman, 1997). They may stay away from online gambling because losing in gambling may be perceived as loss of reputation.

The main character elements of psychopathy include high impulsivity and sensation seeking as well as low empathy and anxiety (Paulhus & Williams, 2002). Because individuals with high levels of psychopathy are often impulsive and risk-takers (Lilienfeld et al., 2016), they may be motivated by the potential gains from gambling without adequate consideration of the potential losses that often accompany online gambling (Onyedire et al., 2021).

Gambling activities such as internet casino games, sports betting, and bingo were associated with problem gambling (Moore et al., 2013). Bayındır (2018) found that the most preferred games and bets in Türkiye are lotto games, legal games of chance organized by the National Lottery Administration, slot machine games, and horse racing. These games, which can be started for fun or to try luck, can become a habit over time. While those who experience the feeling of winning continue to experience this pleasure again and earn more, they can continue to play these games to regain what they lost when they lose. In addition, the legality of some games of chance and betting, played through dealerships and supported by the state, allows people from all parts of the society to participate with a small amount of money (Bayındır, 2018). University students may also be interested in these

games as they are at the beginning of adulthood and have less parental control. Accordingly, it is critical to pay attention to gambling behavior that can lead to addiction, especially in emerging adulthood, and to organize preventive practices.

Although this study has several strengths, the results should be interpreted within the context of a number of potential limitations. One potential limitation is the sample of the study. The sample consisted of university students in emerging adulthood. Future studies may focus on other developmental periods. A second potential limitation is that our results are based solely on self-report measures, which are likely to be influenced by socially desirable responses. Social desirability is a common issue where participants may have to exaggerate or underestimate their responses to form positive or negative attitudes. Finally, the current study was a cross-sectional study. Additional methodologies, such as longitudinal studies, may be used in further studies to increase the validity of the present results.

In conclusion, legal gambling and online gambling appear to play a role in the spread of gambling and problems among young people. On the other hand, there is an age limit for games of chance and betting in Türkiye. However, online sites have made it easier to access such activities, and some personality types may influence the tendency towards online gambling. This study confirmed the tendency of men towards online gambling addiction. The online gambling addiction averages of both women and men were above the limit. The findings revealed the positive association between narcissism and psychopathy and online gambling addiction and no relationship between Machiavellianism and this addiction. The most important result of this study was the predictive effects of the Dark Triad traits (narcissism and psychopathy) on online gambling addiction. Based on the current study results, it is possible to say that men and university students with high narcissism and psychopathy personality traits are vulnerable to online gambling addiction, but Machiavellianism wasn't a predictor of online gambling addiction. In this regard, given the adverse impact of online gambling on students' future, preventive and awareness-raising practices by parents, universities, psychologists, and psychological counselors towards this problem are essential. It may be useful to identify personality traits and develop practices to alleviate the adverse effects of these traits on the probability of online gambling addiction.

Author Contributions

The author declares that no other author contributed to the study and that she has read and approved the final version of the study.

Ethical Declaration

Agri Ibrahim Cecen University Ethics Committee granted approval for the present research on 28.03.2024 (Protocol No. 98263).

Conflict of Interest

The author declares no conflict of interest with any person or institution.

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Türkiye’de Ücretli Öğretmenlik, Alan Değişikliği ve Orantısız Öğretmen Hareketliliğinin Eğitime Yansımaları

Reflections of Hourly-Paid Teaching, Field Change and Disproportionate Teacher Mobility on Education in Turkey

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Öz: Türkiye’de öğretmen istihdam politikalarından alan değişikliği uygulaması, ücretli öğretmenlik uygulaması ve bölgelere göre orantısız öğretmen hareketliliğinin eğitime yansımalarını araştırmayı amaçlayan bu çalışma karma araştırma yöntemlerinden Tamamen Karma, Sıralı, Baskın Statülü Tasarım’a göre desenlenmiştir. Araştırmada veriler üç aşamada toplanmış ve analiz edilmiştir. Birinci aşamada araştırmacılar tarafından geliştirilen ve açık uçlu sorulardan oluşan yarı yapılandırılmış görüşme formu kullanılmış, elde edilen veriler içerik analizi yöntemiyle analiz edilmiştir. İkinci aşamada doküman incelemesi yöntemiyle elde edilen veriler tematik analiz sürecinden geçirilmiştir. Üçüncü aşamada da resmi kurumların raporlarından derlenen istatistikî veriler SPSS programıyla analiz edilmiştir. Araştırmada alan değişikliği, ücretli öğretmenlik ve orantısız öğretmen hareketliliği gibi bazı istihdam politikaları ele alınmış ve araştırma sonuçları tüm bu uygulamaların eğitimin niteliğini olumsuz yönde etkilediğini ortaya koymuştur.

Anahtar Kelimeler: Eğitim politikası, öğretmen istihdamı, ücretli öğretmenlik, alan değişikliği, öğretmen hareketliliği

Abstract: This study aims to examine the impact of three specific teacher employment policies on education in the context of Turkey: field change, hourly-paid teaching, and unbalanced teacher mobility in regions. It was carried out with Fully Mixed Sequential Dominant Status Design as a type of mixed methods research. The data were collected and analyzed in three stages. First, a semi-structured interview form with open-ended questions was prepared by the researchers and the data obtained in this way were processed with content analysis. Second, document analysis was conducted, and collected data were interpreted through thematic analysis. Lastly, statistical analysis was conducted on the relevant state reports in SPSS. The results revealed that all of the abovementioned policies impair the usual course of formal education in the country. It has been suggested that education policies should be reviewed in order to have a positive impact on education through the employment types of teachers.

Keywords: Education policy, teacher employment, hourly-paid teaching, field change, teacher mobility

Oktay, Y. ve Köybaşı Şemin, F. (2024). Türkiye’de ücretli öğretmenlik, alan değişikliği ve orantısız öğretmen hareketliliğinin eğitime yansımaları. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi*, 26(4), 524-541 <https://doi.org/10.17556/erziefd.1477139>

Giriş

Eğitim, ülkelerin kalkınmasında ihtiyaç duyulan nitelikli insan tipini yetiştirmede önemli bir yere sahiptir. Eğitimin toplumsal kalkınma ve gelişmeyi sağlamada üzerine düşen görevi yerine getirebilmesi iyi yetişmiş, nitelikli öğretmenlerle mümkündür. İyi yetişmiş öğretmenlerse sadece toplumsal kalkınma ve gelişmeyi değil aynı zamanda kaliteli bir eğitimin temelini oluşturur.

Nitelikli bir eğitimi tesis etmede öğretmenlerin hangi kaynaktan istihdam edildikleri önem arz etmektedir. Türk Dil Kurumuna göre istihdam kelimesi, bir işte veya görevde kullanılmaktır (TDK, 2024). Bir başka deyişle hizmet etmesini istediğimiz kişilerin görevlerini belirli bir şekilde yapmasıdır. Örgütler, işgücü ihtiyaçlarını belirlemek, işgücü kaynaklarını etkili bir şekilde kullanmak ve gelecekteki ihtiyaçları karşılamak için istihdama yönelik boyutları değerlendirmek durumundadırlar (Sabuncuoğlu, 1997). Bu kapsamda ele alınacak istihdama yön veren boyutları şu şekilde değerlendirmek mümkündür; i) Miktar: İstihdamın miktarı, bir örgütte çalışan insan sayısıdır. Bu, işgücüne katılım oranı, işsizlik oranı ve istihdam oranı gibi göstergelerle ölçülür; ii) Kalite: İstihdamın kalitesi, işgücündeki çalışanların beceri düzeyi, eğitim seviyesi ve deneyimi gibi faktörlere dayanır. Daha yüksek kaliteli istihdam genellikle daha yüksek verimlilik ve ekonomik büyüme ile ilişkilendirilir; iii) Dağılım: İstihdamın dağılımı, belirli sektörler, meslekler veya demografik gruplar arasındaki işgücü dağılımını ifade eder. Örneğin, cinsiyet, yaş, etnik köken veya coğrafi bölgelere göre

istihdam dağılımını ele alır; iv) Güvence: İstihdamın güvencesi, çalışanların iş güvencesi, sosyal güvenceleri ve çalışma koşulları gibi faktörlere dayanır. Güvenceli istihdam, çalışanların daha istikrarlı bir gelire, sosyal haklara ve kariyer gelişimine erişimini sağlar; v) Esneklik: İstihdamın esnekliği, örgütlerin ihtiyaçlarına göre işgücü arz ve talebine göre gerekli uyum yeteneğini ifade eder. Esnek istihdam, örgütlerin hızlı değişen taleplere cevap verebilmesini sağlar ancak çalışanlar için belirsizlik ve güvencesizlik yaratabilir. Bu bağlamda öğretmen istihdamının eğitime olumlu veya olumsuz yansımaları üzerine söz konusu olan alan değişikliği, ücretli öğretmenlik ve öğretmen hareketliliği öğretmen istihdamın boyutlarını kapsamaktadır. Ayrıca bütüncül bir şekilde farklı uygulamaların istihdama nasıl yansıdığı ile ilgili sonuçların değerlendirilmesi mümkün gözükmemektedir.

Öğretmen istihdamına yönelik eğitim politikaları irdelenirken öncelikle üzerinde durulması gereken kavram eğitim planlamasıdır. Eğitim planlaması, rasyonel ve düzenli analiz tekniğinin, eğitimde verimi arttırmak ve toplumun ihtiyaçlarına en üst düzeyde cevap verebilmek için eğitim sürecine uygulanmasıdır (Aydın ve diğerleri, 2014). Eğitimin planlamasının amacı, eğitim sektöründeki dar boğazları ortadan kaldırmak için çözüm yollarının sonuçlarını kestirmek, uzun dönemli bir planın genel çerçevesini hazırlamak, söz konusu çerçeveye dayalı amaçları saptamak ve bu amaçları gerçekleştirmek için ayrıntılı bir plan hazırlamaktır (Aydın, 2010).

Millî Eğitim Bakanlığının öğretmen istihdamı planlamaları incelendiğinde bakanlığa bağlı okullarda görev yapan

öğretmenlerin, eğitim fakülteleri dışında birçok farklı kaynaktan istihdam edildiği görülmektedir. Türkiye’de Cumhuriyet döneminden başlayarak hızlı bir şekilde artan nüfusa bağlı olarak öğretmen ihtiyacı da hızlı bir şekilde artmıştır. Artan öğretmen ihtiyacını öğretmen yetiştiren kurumların karşılayamamasından dolayı öğretmen ihtiyacını gidermek amacıyla hükümetler az maliyetli ve hızlı sonuç verebilecek çeşitli uygulamaları hayata geçirmişlerdir. 1970’lerde 46.000 öğrenci öğretmen yetiştiren programlara mektupla öğretim yoluyla alınmış ve çok kısa sürede öğretmen olarak mezun olmaları sağlanmıştır. Ayrıca binlerce lise mezunu 1978’de hızlandırılmış eğitim adıyla 45 günde bir sınıf geçmek kaydıyla öğretmen olmuştur (Demirel, 1995, s. 102-103) 1961’den itibaren ortaokul ve lise mezunları bir kurstan geçirilerek öğretmen olarak atanmışlardır. 1970’lerden itibaren de çeşitli fakülte mezunlarına pedagojik formasyon kursları verilerek öğretmen olarak atanmışlardır (Eşme, 2009; Akyüz, 2019). Pedagojik formasyonla öğretmen atama uygulamaları zaman zaman kesintiye uğrasa da günümüze kadar sürmüştür. Aynı zamanda açık öğretim fakültelerinin okul öncesi, çocuk gelişimi ve rehber öğretmenlik gibi bazı programlarından mezun olanlar da yakın zamana kadar öğretmen olarak atanmışlardır. Eğitimin önemiyle bağdaşmayan bu uygulamaların, eğitimin niteliğini olumsuz yönde etkilediği ve öğretmenlik mesleğini değersizleştirerek mesleğe zarar veren uygulamalar olduğu söylenebilir. Zira ÖSYM verilerine göre 2011 yılında en düşük devlet üniversitesi okul öncesi öğretmenliği puanı ile açık öğretim okul öncesi bölümü arasında yaklaşık 26 puan fark vardır (Cesur ve Sağlam, 2022). Bu bağlamda 18. Milli Eğitim Şurasında bir ihtisas mesleği olan öğretmenlik mesleğine açık öğretim fakültesi mezunlarının alınması uygulamasının sona erdirilmesi kararı alınmıştır (MEB, 2010).

Diğer taraftan MEB, kadrolu öğretmenlerle gideremediği öğretmen ihtiyacını vekil öğretmenlik, ücretli öğretmenlik, asker öğretmenlik gibi geçici istihdam tipleriyle gidermeye çalışmaktadır. Özellikle Türkiye’nin doğu ve güneydoğusu ile ülkenin diğer kırsal kesimlerinde bu istihdam tiplerine sıklıkla başvurulduğu söylenebilir (Türk-Eğitim Sen, 2022). Ancak bu uygulamaların en yaygın olan ücretli öğretmenlik ile ilgili yapılan araştırmalarda Polat (2013) ücretli öğretmenlerin okul kültürüne ayak uyduramadıkları, öğrenciler üzerinde yeterince etkili olamadıkları, velilerle iyi iletişim kuramadıkları ve bu durumun veliler tarafından tepkiyle karşılandığını ifade etmiştir. Güvercin (2014) ücretli öğretmenlerin kendi benliklerine ve mesleklerine yabancılaştıklarını; Öğülmüş, Yıldırım ve Aslan (2013) ücretli öğretmenlerin mesleğe bağlılıkları ile performans ve yetkinliklerinin düşük olduğu belirtmişlerdir. Doğan, Demir ve Turan (2013) ücretli öğretmenlerin mesleğe ve kuruma aidiyet geliştiremedikleri için başarısız olduklarını, Erol ve Merze (2023) ücretli öğretmenlerin kendilerini geçici olarak gördükleri için kendilerini geliştirmediklerini ifade etmişlerdir. Evcı, Evcı, Arısan ve Gerçek (2024) de ücretli öğretmenlerin görevlendirildikleri alana hâkim olmadıkları sonucuna ulaşmışlardır. Diğer taraftan Millî Eğitim Bakanlığı 657 sayılı Devlet Memurları Kanunu’nun 4/B maddesine göre 2005 yılından itibaren öğretmen istihdam tiplerinde değişikliğe gitmiş sözleşmeli öğretmenlik uygulamasına geçilmiştir. Sözleşmeli öğretmenlik uygulamasına ilişkin Gündüz (2008) yaptığı araştırmada sözleşmeli öğretmenlerin iş güvencelerinin olmadığı ve kadrolu öğretmenlerle aynı haklara sahip olmak istediklerini ifade etmiştir. Gürcüoğlu (2019) sözleşmeli öğretmenlik uygulamalarının eğitimin

niteliği açısından olumlu sonuçlar doğurmayacağı sonucuna varmıştır. Demirkaya ve Ünal (2017) sosyal bilgiler öğretmen adaylarının sözleşmeli öğretmenlik uygulamasına genel olarak olumsuz yaklaştıklarını belirtmiştir. Karadeniz ve Demir (2010) ise yapmış oldukları çalışmada uygulamanın, özlük hakları bakımından kadrolu öğretmenlere göre daha dezavantajlı olan sözleşmeli öğretmenlerin motivasyonunu ve iş doyumlarını olumsuz yönde etkilediğini vurgulamışlardır.

MEB, belli dönemlerde (2012 yılındaki 4+4+4 uygulaması) bazı branşlarda (Türkçe, matematik, İngilizce, beden eğitimi vb.) ortaya çıkan öğretmen ihtiyacını karşılayabilmek için alan değişikliği yoluna gitmiş ve binlerce sınıf öğretmeni kendi alanları dışında yan alanlarında istihdam edilmiştir (MEB, 2012; Gökyer, 2014). Ersözlü, Maviş, Özel ve Kürşadoğlu (2014), Öztaş ve Dündar (2021) ile Sümer (2022) alan değişikliği yapan sınıf öğretmenlerinin geçtikleri alanla ilgili bilgi yetersizliği, ergenlik çağındaki çocuklarla iletişim, disiplin sağlama gibi konularda uyum sorunları ile karşılaştıkları ifade etmişlerdir. Gökyer (2014), 2012 yılında alan değişikliği yaparak yan alanlarına geçen öğretmenlerin eğitimde niteliğin düşmesine neden olacağını ileri sürmektedir. Güneş (2014) ile Çelik ve Taç (2021) araştırmalarında, alan değiştiren öğretmenlerin çoğunluğunun bu uygulamadan memnun olduğunu, yeni alanlarında başarılı olacaklarını düşünmekte iken bu durumun alan değiştirmeyen öğretmenler nezdinde olumlu karşılanmadığı, yan alanına geçen öğretmenlerin başarılı olamayacakları sonucuna varmıştır. Erol ve Karsantık (2021), sınıf öğretmenliğinden özel eğitim öğretmenliğine geçiş bağlamında öğretmenlerin geçtikleri alanla ilgili bazı konularda kendilerini yetersiz gördükleri, yöneticiler ve diğer öğretmenler tarafında olumsuz bir bakış açısıyla karşılaştıkları, en büyük sorun olarak da velilerin kendilerine karşı olumsuz bir tutum geliştirdikleri sonucuna ulaşmıştır.

Türkiye’de öğretmen istihdamında diğer bir sorun da öğretmenlerin Doğu ve Güneydoğu Anadolu Bölgelerinde diğer bölgelere kıyasla yeterli süre istihdam edilememeleridir. Son yıllarda öğretmen atamalarının büyük bölümü bu bölgelere yapılmakta; ancak atanan öğretmenler üç yıllık zorunlu çalışma sürelerini doldurduktan hemen sonra eş durumu, sağlık ve güvenlik gibi çeşitli mazeretler ileri sürerek bölgeden ayrılmaktadırlar (Ushurova, Tösten ve Kayra, 2023; Kızıldaş, 2021; Eğitim-Bir-Sen, 2019; ERG, 2017; Turhan, 2016). Dolayısıyla bu bölgelerde öğretmen ihtiyacı tamamen karşılanamamakta, bununla birlikte çok fazla öğretmen değişimi olmakta ve genellikle de tecrübesiz öğretmenler görev yapmaktadır. Bu bağlamda Şahin (2018), araştırmalarında aşırı öğretmen hareketliliğinin yani bir okulda öğretmenlerin çok kısa süreler görev yaparak ayrılmasının öğrencilerin başarısını doğrudan olumsuz etkileyen önemli bir faktör olduğu sonucuna varmıştır. Altun (2019) ve Yılmaz (2001) Türkiye’de eğitim başta olmak üzere birçok konuda bölgesel eşitsizliklerin var olduğunu ifade etmişlerdir. Ayrıca araştırmalarında Güneydoğu Anadolu bölgesinde görev yapan öğretmenlerin yaşam standartlarının oldukça düşük olduğunu ve buna bağlı olarak da öğretmen hareketliliğinin fazla olduğunu vurgulamışlardır. Ushurova ve diğerleri (2023), Kızıldaş (2021) ve Oktay (2012) ise bölgedeki yoğun öğretmen hareketliliğine dikkat çekerek bunun endişe verici boyuta eriştiğini ve başarısızlıkların altındaki en önemli nedenlerden biri olduğunu belirtmektedir.

Öğretmen istihdamı bakımından ücretli öğretmenlik, öğretmenlerin kendi alanları dışında farklı bir alanda istihdam edilmeleri ve orantısız öğretmen hareketliliğinin eğitime

olumsuz yansımaları olabileceği düşünülmektedir. Bu bağlamda alan yazın incelendiğinde Türkiye’de öğretmen istihdam politikaları (Kesbiç, 2021; Gül ve Kavaklı, 2021; Dali, 2017; Doğan, Demir ve Turan, 2013) ve öğretmen yetiştirme (Başkan, Aydın ve Madden, 2006; Eşme, 2009; Akdemir, 2013; Yıldırım, 2020; Çetin, Ünsal ve Hekimoğlu, 2021) konularında araştırmalar yapıldığı görülmektedir. Ancak bu araştırmaların genel olarak ya ücretli öğretmenlik ya sözleşmeli öğretmenlik ya da alan değişikliği gibi yalnızca tek bir konuya odaklanmış oldukları söylenebilir. Bu çalışma ise “alan değişikliği uygulaması, ücretli öğretmenlik uygulaması ve bazı bölgelerdeki orantısız öğretmen hareketliliği” gibi üç temel konunun eğitime etkilerine bütüncül bir şekilde bakmayı sağlaması açısından önemli bir çalışmadır. Eğitim sisteminin temelinde yer alan öğretmenlerin istihdamı bakımından büyük öneme sahip olduğu düşünülen bu konuların bütünsel olarak ele alınıp eğitime etkilerinin tartışılmasının sonraki araştırmalar ve politika yapıcılar için farklı bir pencere açabileceği düşünülmektedir. Bu bağlamda çalışmanın amacı, Türkiye’de öğretmen istihdam politikalarından alan değişikliği uygulaması, ücretli öğretmenlik uygulaması ve bölgelere göre orantısız öğretmen hareketliliğinin eğitime yansımalarını araştırmaktır. Bu bağlamda çalışmada, alan değişikliği uygulamasının eğitime etkileri, ücretli öğretmenlik uygulamasının eğitime etkileri ve bölgelere göre orantısız öğretmen hareketliliğinin eğitime etkileri ele alınacaktır.

Yöntem

Araştırmanın Modeli

Türkiye’de öğretmen istihdam politikalarından alan değişikliği uygulaması, ücretli öğretmenlik uygulaması ve bölgelere göre orantısız öğretmen hareketliliğinin eğitime yansımalarını araştırmayı amaçlayan bu çalışma karma araştırma yöntemlerinden Tamamen Karma, Sıralı, Baskın Statülü Tasarım’a göre desenlenmiştir. Bu yöntem farklı veri kaynaklarından elde edilen bulguların karşılıklı olarak doğrulanması, çeşitlendirilmesi ve bütünleştirilerek daha geniş geçerlilik sağlanması için tercih edilmiştir. Araştırmada Tamamen Karma, Sıralı, Baskın Statülü Tasarım yaklaşımının vurgusu, sürecin hem nitel hem de nicel aşamalarının olup olmadığıyla ilgilidir. Tasarım, nicel ve nitel verilerin tamamen karıştırıldığı, araştırmada nitel ve nicel yöntemlerin sıralı şekilde kullanıldığı ve araştırma sorusu/soruları veya bir bileşenin önemli ölçüde daha yüksek önceliğe sahip olduğu araştırma desenidir (Leech ve Onwuegbuzie, 2009).

Bu bağlamda araştırma, “nitel-nitel-nitel” sıralama düzenine göre tasarlanmıştır. Araştırmanın birinci alt amacına ilişkin yürütülen çalışma olgubilim desenine göre tasarlanmıştır. Alan değiştiren öğretmenler ve alan değiştiren öğretmenlerin görev yaptığı okul müdürleriyle görüşmeler yapılarak olguyu yaşayan bireylerin deneyimlerinden konu ile ilgili ayrıntılı bilgi elde edilmeye çalışılmıştır. Araştırmanın ikinci alt amacında doküman incelemesi yöntemi kullanılmıştır. Alan yazında ücretli öğretmenlik ile ilgili bilimsel makaleler, tezler ve kitaplar taranarak konu ile ilgili daha önce ulaşılan sonuçlar hakkında bilgi edinmeye çalışılmıştır. Araştırmanın üçüncü alt amacına ilişkin yürütülen çalışma ise ilişki araştırma yöntemine göre desenlenmiştir. MEB’in PISA 2018 Türkiye Ön Raporu, TIMSS 2019 Türkiye Ön Raporu’ndan elde edilen öğrencilerin bölgelere göre başarı puanları ve GAP Bölge Kalkınma İdaresi’nin Güneydoğu Anadolu Bölgesinde öğretmen hareketliliği projesi değerlendirme raporundan

(2018) elde edilen sayısal veriler arasında ilişki olup olmadığı karşılaştırmalı olarak incelenmiştir.

Creswell ve Creswell’e (2017) göre her araştırma yönteminin hem sınırlamaları hem de güçlü yönleri vardır. Araştırma problemi veya soruları hakkında daha güçlü bir anlayış geliştirmek için araştırma yöntemlerinin güçlü yönleri birleştirilebilir. Bir anlamda bu, bir soruna ilişkin daha fazla iç görü, karıştırma veya nicel ve nitel verilerin entegrasyonudur. Bu “karıştırma” veya “bütünleştirme” verilerin, sorunun daha güçlü bir şekilde anlaşılmasını sağladığı veya bir olgunun birden çok yönünün bir arada kullanılması ile tüm yönlerinin ortaya çıkarılmasını sağladığı yöntemdir. Karma yöntem araştırması, bu nedenle, basitçe veri tabanlarını entegre ederek daha fazla “madencilik” yapmak anlamına gelmektedir. Bu bağlamda araştırmada görüşme yöntemiyle elde edilen veriler yine nitel veri toplama yöntemlerinden olan doküman incelemesi ve ilişki tarama yöntemiyle elde edilen nicel verilerle desteklenmiş ve zenginleştirilmiştir.

Araştırmanın Çalışma Grubu

Araştırmanın birinci alt amacı olan “alan değişikliği” uygulaması nitel araştırma yöntemlerinden olgubilim desenine göre tasarlanmış ve araştırmanın çalışma grubu ölçüt örnekleme yöntemiyle belirlenmiştir. Ölçüt örnekleme, araştırmacı tarafından önceden belirlenen bazı ölçütleri karşılayan birey ve gruplarla çalışmasıdır (Patton, 2014). Araştırmanın bu bölümü iki çalışma grubu ile yürütülmüştür: İlki mezun oldukları alanda görev yapmakta iken diplomalarında belirtilen yan alanına geçen dokuz öğretmenden oluşmakta iken ikinci çalışma grubu bu öğretmenlerin alan değiştirdikten sonra görev yaptığı altı okulun müdüründen oluşmaktadır. Katılımcı öğretmenlere ilişkin bilgiler Tablo 1’deki gibidir:

Tablo 1. Katılımcı öğretmenlere ilişkin bilgiler

	Atama alanı	Geçiş yaptığı alan
K1	Sınıf	Muhasebe
K2	Sınıf	Türk Dili ve Edebiyatı
K3	Sınıf	Beden Eğitimi
K4	Sınıf	Din Kültürü ve Ahlak
K5	Sınıf	Matematik
K6	Sınıf	Özel Eğitim
K7	Sınıf	Özel Eğitim
K8	Sınıf	Özel Eğitim
K9	Sınıf	Beden Eğitimi

Tablo 2. Katılımcı okul müdürleri

	Görev yaptığı okul türü
Y1	Ortaokul
Y2	Meslek Lisesi
Y3	İmam-Hatip Lisesi
Y4	Ortaokul
Y5	Meslek Lisesi
Y6	Ortaokul

Araştırmanın ikinci ve üçüncü alt amacında ise tercih edilen araştırma desenleri bakımından çalışma gruplarıyla çalışılmamıştır.

Veri Toplama Aracı

Araştırmada veriler üç aşamada toplanmıştır. Birinci aşamada alan değişikliği uygulamasına yönelik veri toplama aracı olarak araştırmacılar tarafından geliştirilen ve açık uçlu sorulardan oluşan yarı yapılandırılmış görüşme formu kullanılmıştır. Taslak olarak geliştirilen görüşme formu

öğretmen ve yöneticiler için ayrı ayrı hazırlanmıştır. Belirli bir mantık çerçevesinde hazırlanan sorularla konunun bütün yönleriyle ele alınması ve geliştirilmesi hedeflenmiştir (Forrester ve Sullivan, 2018). Taslak görüşme formları eğitim yönetimi alanında uzman iki öğretim üyesinin görüşleri alınarak yeniden düzenlenmiştir. Sorular dil ve ifade açısından iki Türkçe öğretmeni tarafından incelenmiş ve öğretmenlerin cümlelerin açıklık konusundaki önerileri doğrultusunda gerekli düzeltmeler yapılmıştır. Ardından veri toplama aracının pilot uygulaması araştırma kapsamında olmayan öğretmenin ve yöneticilere yapılmış ve daha sonra uygulanmıştır.

İkinci aşamada ücretli öğretmenlik uygulamalarının eğitime nasıl yansındığını ortaya çıkarmak üzere bu konuda yazılan ulusal makaleler ve tezler doküman incelemesine tabi tutulmak suretiyle veriler elde edilmiştir. Doküman incelemesi, araştırmaya kaynak olabilecek basılı ve elektronik materyallerin elde toplanması ve analiz edilmesi (Bowen, 2009) olarak tanımlanmaktadır.

Üçüncü aşamada ise veriler, Türkiye’de orantısız öğretmen hareketliliğinin eğitime yansımaları, PISA 2018 Türkiye Ön Raporu, TIMSS 2019 Türkiye Ön Raporu ve GAP Bölge Kalkınma İdaresi’nin Güneydoğu Anadolu Bölgesinde öğretmen hareketliliği projesi değerlendirme raporundan (2018) elde edilmiştir.

Veri Toplama Süreci

Araştırmanın ilk aşamasında araştırmacılar tarafından geliştirilen ve açık uçlu sorulardan oluşan yarı yapılandırılmış görüşme formu kullanılarak konu ile ilgi ayrıntılı ve nitelikli veriler elde edilmeye çalışılmıştır. Araştırma kapsamında 9 öğretmen ve 6 okul müdürüyle tek tek görüşmeler yapılmıştır. Görüşmeler katılımcıların istediği, kendileri için en uygun gün ve saatte gerçekleştirilmiştir. Görüşmelere başlamadan önce katılımcılarla sohbet edilerek samimi bir iletişim geliştirilmeye çalışılmıştır. Araştırmada katılımcıların isimlerinin ve görev yaptıkları okulların isimlerinin verilmeyeceği taahhüdünde bulunularak güvenli bir iletişim kurulmuştur. Her bir katılımcı ile yaklaşık 35-40 dakika görüşülmüş ve veri kaybının önüne geçebilmek için katılımcıların onayıyla ses kaydı yapılmıştır.

İkinci aşamada veriler, “ücretli öğretmenlik uygulamalarının” eğitime nasıl yansındığını ortaya çıkarmak üzere bu konuda yazılan ulusal makalelerden ve tezlerden doküman incelemesi yöntemiyle elde edilmiştir. Bu bağlamda Google akademik ve YÖK Tez veri tabanından “ücretli öğretmenlik” “öğretmen istihdamı” anahtar kelimeleri kullanılarak taramalar yapılmıştır. Veri tabanlarında yapılan taramalar 2010 yılından itibaren yapılarak sınırlandırılmıştır. Taramalar sonucunda “ücretli öğretmenlik” “öğretmen istihdamı” anahtar kelimelerinin yer aldığı ve metnin tamamına ulaşılmış, bilimsel kriterlere uyan 16 adet makale 2 adet yüksek lisans tezi olmak üzere toplam 18 adet çalışmaya dâhil edilmiştir.

Üçüncü aşamada ise Türkiye’de orantısız öğretmen hareketliliğinin eğitime yansımalarının ne şekilde olduğu ortaya çıkarılmaya çalışılmıştır. Bu bağlamda öncelikle MEB’in PISA 2018 Türkiye Ön Raporu ile TIMSS 2019 Türkiye Ön Raporu’ndan öğrencilerin bölgelere göre başarı puanları derlenmiştir. Daha sonra GAP Bölge Kalkınma İdaresi’nin Güneydoğu Anadolu Bölgesinde öğretmen hareketliliği projesi değerlendirme raporundan (2018) ise öğretmenlerin bölgelerden ayrılma oranları ve sayıları elde edilmiştir. Son olarak da farklı kaynaklardan elde edilen bu

verilerin birbirini destekleyip desteklemediğine bakılmıştır.

Verilerin Analizi

Araştırmanın ilk aşamasında görüşme yoluyla elde edilen veriler içerik analizi yöntemiyle analiz edilmiştir. Görüşmeye ait toplam 520 dakikalık ses kaydı herhangi bir müdahaleye tabi tutulmadan ham olarak word uygulamasına aktarılmıştır. Bu aşamada bilgisayar ortamına aktarılan veriler ile ses kayıtlarının tutarlı olup olmadığı bir uzman tarafından denetlenmiş ve her iki ortamdaki verilerin tutarlı olduğu tespit edilmiştir. Bilgisayar ortamına aktarılmış olan veriler, araştırmacı ve nitel araştırmalar konusunda bir uzman tarafından kodlanmıştır (Miles ve Huberman, 2016). Yapılan kodlamalar teker teker okunarak karşılaştırılmış ve ortak bir anlayış geliştirilmiştir. Bu ortak anlayış neticesinde sınıflandırılan ve birçok koddan oluşan, araştırma sorularına cevap niteliğinde kategoriler oluşturularak (Corbin ve Strauss, 2008) yorumlanmıştır. Araştırmanın ikinci aşamasında araştırmacı ve eğitim yönetimi alanında bir uzman tarafından “ücretli öğretmenlik” ve “öğretmen istihdamı” anahtar sözcükleri kullanılarak “gözden geçirme” yoluyla tarama yapılmıştır. Tarama sonucunda ulaşılan akademik çalışmalar yöntemleri, bulgu ve sonuçları bakımından araştırmacı ve eğitim yönetimi alanında bir uzman tarafından ayrı ayrı incelenmiş ve elde edilen veriler “ayrıntılı okuma” yoluyla temalara dönüştürülmüştür. Tematik analiz sürecinden geçirilen veriler “yorumlanarak” okuyucuya sunulmuştur (Corbin ve Strauss, 2008). Araştırmanın son aşamasında ise MEB ve GAP Bölge Kalkınma İdaresi’nin raporlarından elde edilen istatistiki veriler, SPSS programında, ilişki testleri ile analiz edilmiştir.

Geçerlik ve Güvenirlik

Nitel araştırmalarda katılımcılar ile diğer kaynaklardan elde edilen verilerin güvenilir ve inandırıcılığını saptamak için geçerliğe odaklanılır (Lincoln & Cuba, 1985). Geçelik de araştırmacının katılımcılardan elde ettiği bilgilerin analiz sürecine ve araştırma dışındaki farklı uzman görüşlerine bağlıdır (Creswell & Plano Clark, 2020) Bu araştırmanın nitel aşamalarında elde edilen verilerin kodlanması araştırmacılar ile araştırmacılar dışında farklı bir uzman tarafından yapılmıştır. Araştırma, üzerinde fikir birliğine varılan kodlar ve temalar üzerinden yürütülmüştür. Ayrıca araştırmanın geçerliğini sağlamak adına katılımcı kontrolü yapılmıştır. Bu bağlamda bulgular, katılımcılara özetlenerek onların deneyimlerini yansıtıp yansıtmadığı doğrulanmaya çalışılmış ve bulguların katılımcı deneyimlerini yansıttığı tespit edilmiştir. Eğitim yönetimi alanında iki uzmanın görüşü alınmıştır. Özellikle araştırmanın yöntemi ve kapsamı konusunda uzmanlar tarafından yöneltilen önerilerden faydalanılmıştır. Katılımcıların görüşleri sıklıkla doğrudan alıntılama yöntemiyle aktarılmıştır. Ayrıca çalışmada istatistiki verilere yer verilerek araştırmanın geçerliği sağlanmaya çalışılmıştır. Diğer taraftan çalışma karma yöntemle yapıldığından (nitel-nitel-nicel) hem nitel araştırmaların hem de nicel araştırmaların tek başına kullanıldıklarında karşılaşılabilecek dezavantajlı durumlar en aza indirgenmiştir. Patton’a (1990) göre, farklı yöntemlerle elde edilen veriler birbirini destekleyici ve doğrulayıcı rol oynayarak çalışma ile ilgili önyargıları ortadan kaldırmaktadır. Bu da araştırmanın güvenilirliğini artırmaya yardımcı olmaktadır.

Tablo 3. Alan değiştiren öğretmenlerin alan değişikliği yapmaktaki amacı

Kategori	Kod	Katılımcılar
İmkânlarının Çekiciliği	İmkânlarının daha iyi olması	K2
	Tayin yaptırmanın daha kolay olması	K7, K1
	Koşulların uygun olması	K2
	Emekli olunca özel rehabilitasyon merkezlerinde çalışma imkanı	K8
	Ek ders ücretinin fazla olması	K8
Alana Karşı İlgi Duymak	Çok sevdiği ve o alanda yapmak istediği için	K3,K6,K9
	Alana karşı özel bir ilgi	K4,K5
	Özel gereksinimli çocuklara verilecek eğitimin manevi boyutu	K8
	Yeni bir alan olması	K7
Mesleki Tükenmişlik	Alanın sorumluluğunun çok fazla oluşu	K2
	Yoğun ders yükünden kurtulmak	K3
	Branşın gerektirdiği sabır eksikliği	K5
	Yılgınlık	K9
Öz Yeterlilik	Önceki alanda yeterli olmadığı düşüncesi	K5
	Geçilen alanda daha başarılı olacağı düşüncesi	K6,K9
	Kendini daha iyi ifade edeceği düşüncesi	K3
İstemediği Alanda Çalışmak	İstediği alanın dışında görev yapıyor olmak	K2,K3,K4,K5,K6,K9

Bulgular

Bu çalışma ile Türkiye’de öğretmen istihdam politikalarındaki üç farklı uygulamanın (ücretli öğretmenlik, alan değişikliği ve bölgelere göre öğretmen hareketliliği) eğitime nasıl yansıdığı ortaya çıkarmak amaçlanmıştır. Araştırmada birinci alt amaç olaraank Millî Eğitim Bakanlığı’nın ihtiyaç duyduğu zamanlarda uygulamakta olduğu alan değişikliği uygulaması, ikinci alt amaçta ücretli öğretmenlik uygulaması, üçüncü alt amaçta da Türkiye’de bölgelere göre öğretmen hareketliliği ele alınmıştır.

Alan değişikliği uygulaması ile ilgili elde edilen bulgular altı temada yapılandırılmış, alan değişikliğinin eğitime yansımalarını ortaya çıkarmak üzere:

a) Alan değiştiren öğretmenlerin alan değişikliği yapmaktaki amacı imkânlarının çekiciliği, alana karşı ilgi duymak, mesleki tükenmişlik, öz yeterlilik ve istemediği alanda çalışmak olmak üzere beş kategoride yapılandırılarak Tablo 3’te sunulmuştur:

Alan değiştiren öğretmenlerin alan değişikliği yapmaktaki amaçları incelendiğinde alana karşı ilgi duymak ve imkânlarının çekiciliği ve mesleki tükenmişlik kategorilerinin ön plana çıktığı görülmektedir. Ayrıca, istemediği alanda çalışmak ve öz yeterlilik kategorileri de katılımcılar tarafından vurgulanmaktadır.

Alan değiştiren öğretmenler alan değiştirmedeki amaçlarını açıklarken genel olarak, geçtikleri alana karşı ilgi duyduklarından dolayı alan değiştirdiklerini belirtmişlerdir. Geçtikleri alana karşı duyduğu ilgiyi katılımcıların geneli “Çok sevdiği ve o alanda görev yapmak istediği için” ifadesiyle belirtirken K8 “Özel gereksinimli çocuklara verilecek eğitimin manevi boyutu beni çok etkilediği için bu alana geçtim.” şeklinde ifade etmiş, K4 ise “Alana karşı önceden beri özel bir ilgim vardı. Sınıf Öğretmenliği yaptığım süre boyunca Bilim Teknik dergilerindeki matematik sorularını çözmeye çalışırdım. 2007 yılında daha alan değiştirmeden 8 yıl önce matematik ile ilgili ilgimi çeken soru ve bilgilerin de olduğu web sitemi yayına almıştım.” şeklinde görüş bildirmiştir.

Alan değiştiren öğretmenlerin amaçlarından bir diğeri de “İmkânların çekiciliği” şeklinde açıklanmıştır. İmkânların çekiciliği özlük haklarının daha iyi olduğu şeklinde de ifade

edilebilir. Bu bağlamda “Tayin yaptırmanın daha kolay olması bu alana geçmemde etkili oldu.” sınıf öğretmenliğinden özel eğitim öğretmenliğine geçen K7 tarafında ifade edilirken, sınıf öğretmenliğinden özel eğitim alanına geçen K8 “Özel eğitim alanına geçişte bazı avantajların olması alan değiştirmede etkili olmuştur. Şöyle ki; öğretmen olarak ek dersin yüzde yirmi beş fazla olması, emekli olunca özel rehabilitasyon merkezlerinde çalışma imkânı vb. ekonomik nedenler sayılabilir.” gibi avantajlarına vurgu yapmıştır. Sınıf öğretmenliğinden Türk Dili ve Edebiyatı öğretmenliğine geçen K2 de koşulların uygunluğuna “O dönemde sınıf öğretmenleri kulüp çalışması veya sınıf rehberlik ücreti alamıyordu. Aynı zamanda boş saat veya boş gün gibi bir olguya sahip değildi sınıf öğretmenleri. Ders dışı eğitim faaliyetleri de kısıtlı idi. Örneğin atama branşım Türk Dili ve Edebiyatı olduktan sonra birçok alanda ders dışı eğitim çalışmalarını yapma hakkına sahip oldum.” ifadeleri ile dikkat çekmiştir.

Alan değiştiren öğretmen görüşlerine göre, öğretmenlerin alan değiştirmedeki amaçlarından biri de yaşadıkları “mesleki tükenmişlik” ten kurtulmak olduğu görülmektedir. Bu durumu K3 “Yoğun ders yükünden kurtulmak” şeklinde ifade ederken K5 “Genel olarak öğretmenliği sevmeme rağmen yıllar geçtikçe küçük öğrencilere öğretmenlik yapmak için bilgiden daha ziyade yeterli sabıra sahip olunması gerektiğini anladım. Bu konuda eksikliğim olduğunu düşünmeye başladım.” ifadesiyle ortaya koymuş, K9 da önceki alana karşı mesleki tükenmişliğini “Her gün birçok derse hazırlanma gerekliliği beni alana karşı soğuttu.” olarak ifade etmiştir.

Öğretmenlerin alan değiştirmedeki başka bir amacı ise “öz yeterlilik” tir. Öğretmenler geçtikleri alanda daha yeterli olduklarını düşündükleri için bu alanda daha başarılı olacakları kanısını taşımaktadır. Bu bağlamda K5 görüşlerini “Alan değiştirmeden önce çok verimli olamadığımı düşünerek sınıf öğretmenliğini bıraktım ve matematik kadar ilgimin olduğu bilgisayar üzerine yoğunlaştım.” şeklinde ifade ederken, alan değişikliğinin başarısını olumlu etkileyeceğini K9 “Geçiş yaptığım alanda daha başarılı olacağımı düşündüğüm için alan değişikliği yaptım.” olarak açıklamış, K3 ise “Kendimi bu alanda daha iyi ifade edeceğimi düşündüğünden alan değişikliğine karar verdim.” şeklinde ortaya koymuştur.

Tablo 4. Alan değişikliği sonrasında katılımcıların yaşadığı problemler

Kategori	Kod	Katılımcılar
Özel Alan Bilgisinde Eksiklik Hissetme	Kendini güncelleme gerekliliği	K1,K4
	Alana ait birçok bilgiyi unutmak	K2
	Müfredat değişikliği	K2,K4
	Önceki alan kadar yeterli olamama	K2
	Konuya hâkim olamama	K2,K4
	Alan bilgisi eksikliği	K2,K4,K7
	Yöntem ve teknikler bakımından sorunlar	K2,K4,K7
	Sınıf yönetimi ve disiplin bakımından sorunlar	K4
	Bu alanda eksik olduğunu hissetme	K4,K7
	Kazanımlara ulaşma konusunda başarıya ulaşamama	K4
	Zorlayıcı deneyimlerin olması	K7
	Alanla ilgili eğitimin yetersiz oluşu	K7
Uyum Sorunu	Uyum sorunu	K5
	Alan öğretmenleri ile kaynaşmakta zorlanma	K6
	Öğrenci profiline alışmakta zorlanma	K2,K4
	Mevzuatın farklı olması	K2
	Öğrencilerle iletişim kurma sorunu	K4
	Yıpratıcı oluşu	K8
Algılanan Olumsuz Tutum	Öğretmenlerin olumsuz ve önyargılı bakışları	K6,K8,K9
	Okul idarelerinin olumsuz tutumu	K9
	Psikolojik sorunlar yaşama	K8
	Çevrenin ve velilerin olumsuz tutumu	K8,K9

Öğretmenler alan değiştirmedeki amaçlarını açıklarken son olarak “istenmediği alanda çalışmak” ifadesiyle aslında yıllardan beri istemedikleri ve sevmedikleri bir alanda görev yaptıklarını belirtmektedirler. Bu durumun katılımcı öğretmenlerin çoğu için geçerli olduğunu, yani çoğunluğun görüşü olduğunu söylemek mümkündür. Katılımcılar bu düşüncelerini “İsteddiği alanın dışında görev yapmak” şeklinde ifade etmişlerdir.

b) Alan değişikliği sonrasında katılımcıların yaşadığı problemler; özel alan bilgisinde eksiklik hissetme, uyum sorunu, algılanan olumsuz tutum olmak üzere üç kategoride yapılandırılarak Tablo 4’te sunulmuştur:

Alan değişikliği sonrasında katılımcıların yaşadığı sorunlar incelendiğinde özel alan bilgisinde eksiklik hissetme kategorisinin ön plana çıktığı görülmektedir. Bundan başka katılımcılar tarafından uyum sorunu ve algılanan olumsuz tutum kategorileri de vurgulanmıştır.

Katılımcıların görüşlerine göre, öğretmenlerin alan değiştirdikten sonra yaşadıkları sorunların başında özel alan bilgisinde eksiklik hissetme, sorununun geldiği görülmektedir. Katılımcılar, karşılaşılan sorunların sebeplerini K4 “Din Kültürü ve Ahlak Bilgisi müfredatı ve alan bilgisi konularında bilgilerimi yeniden güncelleme ihtiyacımı ortaya çıkardı.”, K7 “Alanla ilgili eğitimin yetersiz oluşu”, K2 “Alana ait birçok bilgiyi unuttuğumu fark ettim” şeklinde ifade etmişlerdir. Yaşanan sorunları K1 “Alanım mesleki eğitim olduğu için kendimi güncellemem gerekti.”, K2 “Konuya hâkim olmadığımından sıkıntılar yaşadım.” K7 “Yöntem ve teknikler bakımından birçok eksiklik vardı ve bunları zamanla giderebildim.” ve K4 “Sınıf yönetimi ve disiplin bakımından ortaöğretim öğrencilerinin yaş grubu özellikleri nedeniyle zaman zaman sorunlar yaşadım.” olarak ifade etmişlerdir. Öğretmenler ayrıca alan değişikliği sonrasında yaşadıkları sorunların zaman zaman başarısızlığa neden olduğunu ve acı tecrübeler yaşadıklarını belirtmişlerdir.

Alan değiştiren öğretmenlerin yaşadığı diğer bir sorun

“uyum sorunu” olarak göze çarpmaktadır. Öğretmenler gerek çevre gerek öğrenci gerekse ilgili mevzuata uyum konusunda sorun yaşadıklarını belirtmişlerdir. K6 yaşadığı uyum sorununu “Alan öğretmenleri ile kaynaşmakta zorlandığımı söyleyebilirim.” şeklinde ifade ederken, K4 “Öğrenci profiline alışmak zaman aldı.” şeklinde ifade etmiş, K2 ise “Alan değiştirdikten sonra farklı bir eğitim kademesine geçtim. Burada mevzuatın farklı olması zorlandığım konulardan biriydi.” ifadesiyle uyum sorununa dikkat çekmiştir.

Öğretmenlerin görüşlerine göre, alan değişikliği sonrasında öğretmenlerin yaşadığı sorunlardan biri de “algılanan olumsuz tutum” dur. Alan değiştiren öğretmenlere karşı okul idaresi, öğretmen, öğrenci ve velilerin olumsuz tutumu öğretmenlerin karşılaştığı önemli sorunlardan biridir. Okul idaresinin alan değiştiren öğretmenlere ders dağıtımında yetersiz oldukları gerekçesiyle sınava hazırlanan sınıfların dersine vermeyişi bu anlayışın bir göstergesidir. Aynı şekilde velilerin de kendi çocuklarının dersine alan değiştiren öğretmenlerin girmesini istememesi bunun bir göstergesidir. K9 bu durumu “Okul idaresinin ve velilerin alan değiştiren öğretmenlere karşı olumsuz bir tutum içinde olmaları benim için zorlayıcı bir durumdu.” şeklinde, K6 “Öğretmenlerin olumsuz ve önyargılı bakışları elbette ki bizleri olumsuz etkiledi.” ve K8 de “Normal okullar içerisine yerleştirilmiş özel alt sınıfların(hafif) eğitimini veren öğretmenler bu okulda bulunan diğer personeller tarafından hiçbir iş yapmıyor algısı içerisinde değerlendirilmedi bulunuyorlar.” şeklinde ifade etmişlerdir. Ayrıca bazı öğretmenler kendilerine karşı var olan olumsuz tutumun psikolojik sorunlara sebep olduğunu belirtmiştir.

c) Katılımcıların, şu anki imkânlar aynı kalmak koşulu ile asıl alanlarına dönmeyi isteyip istemediklerine ilişkin görüşleri; alanın rahat oluşu, iş doyumu ve kendi alanının özgünlüğü olmak üzere üç kategoride yapılandırılarak Tablo 5’te sunulmuştur:

Tablo 5. Katılımcıların, şu anki imkânlar aynı kalmak koşulu ile asıl alanlarına dönmeyi isteyip istemediklerine ilişkin görüşleri

Kategori	Kod	Katılımcılar
Alanın Rahat Oluşu	Zaman kazanma	K3
	Eve iş taşımama	K3
	Az yıpranma	K3
	Derse hazırlanmanın kolay olması	K3
	Önceki alanın zor oluşu	K4
İş Doyumu	İlgili olduğu alana geçmiş olmak	K5
	Hayalini gerçekleştirmiş olmak	K6
	Eğitim kademesinin uygun oluşu	K7, K8, K9
	Alanında motive olma	K7, K9
	Sağlanan manevi doyunluk	K8
	Yalnızca bir alanda çalışmayı istemek	K9
Kendi Alanının Özgünlüğü	Önceki branşının daha özel olduğuna inanma	K2

Tablo 6. Okul yöneticilerinin alan değişikliği uygulamasını nasıl değerlendirdiklerine ilişkin görüşleri

Kategori	Kod	Katılımcılar
Öğretmenlik	Öğretmen yeterliklerinin önemszenmemesi	Y1
Mesleğine Olumsuz Etkisi	Öğretmenlerin eğitime tabi tutulmamaları	Y1
İşlemsel Adalet	Sürecin sorunlu ilerlemesi	Y1
	Asıl alan gibi olamayacağı inancı	Y2
İşlemsel Adalet	Liyakatsizlik	Y2
	Haksızlık	Y2
	Esas alanı olan insanların kadroları işgal edilerek adaletsizliğe neden olduğu	Y5
Eğitime Olumsuz Etkileri	Eğitim sisteminin zayıf yönlerinden biri	Y3
	Bilimsel bakıştan uzak	Y3, Y4
	Günü kurtarma	Y3, Y4, Y5
	Eğitimin hedeflerine ulaşamama	Y4
	Eğitimi önemsiz görme	Y4
	Ülkenin geleceği için olumsuz bir uygulama	Y4
Öğrenci Açısından Olumsuzlukları	Akademik başarı sorunu	Y4
	Uyum problemleri	Y5
	Bir alanda belli bir süre çalışmışsa uyum sorunu yaşanır	Y5

Katılımcıların şu anki imkânlar aynı kalmak koşulu ile asıl alanlarına dönmeyi isteyip istemediklerine ilişkin görüşleri incelendiğinde alanın rahat oluşu, iş doyumu ve kendi alanının özgünlüğü kategorilerinin ön plana çıktığı görülmektedir.

Öğretmen görüşlerine göre, alan değiştiren öğretmenlerin önceki alanlarına genel olarak dönmek istemedikleri görülmektedir. Bu durumun sebepleri incelendiğinde öğretmenlerin rahat oluşu, kendilerine uygun oluşu, ilgi, istek ve kolaylık gibi gerekçelerle önceki alanlarına dönmeyi istemedikleri anlaşılmaktadır. Eski alanına dönmeyi istememesini K3 “Tekrar branşa dönmek istemem çünkü boş günlerim var ve daha az yıpranıyorum. Eve işimi taşıyorum. Sınıf öğretmeni iken sonraki gün içi evde yoğun ders hazırlığı yapmam gerekiyordu.” şeklinde ortaya koyarken, K4 “Dönmeyi istemem, ancak sınıf öğretmenliğinin tüm öğretmenlik branşları içerisinde en kutsalı en meşakkatlisi olduğuna inanıyorum.”, K7 “Hayır istemem. Çünkü bu öğrencilerle çalışmayı seviyorum. Onları gördüğümde benim de çocuğum engelli olabilirdi, diye düşünüyorum.” K6 da “Hayır istemem. Çünkü hayalimi gerçekleştirdim.” ifadeleriyle belirtmişlerdir. Önceki alanına dönmeyi ise yalnızca bir katılımcının istediği görülmektedir. Bu bağlamda K2 “Aynı haklara sahip olarak dönmeyi isterim. Çünkü bana ve topluma göre asıl öğretmenlik sınıf öğretmenliğidir.” şeklinde görüş belirtmiştir.

d) Okul yöneticilerinin alan değişikliği uygulamasını nasıl değerlendirdiklerine ilişkin görüşleri öğretmenlik mesleğine olumsuz etkisi, eğitime olumsuz etkileri, işlemsel adalet ve öğrenci açısından olumsuzlukları olmak üzere dört kategori altında yapılandırılarak Tablo 6’te sunulmuştur:

Okul yöneticilerinin alan değişikliği uygulamasını nasıl

değerlendirdiklerine ilişkin görüşleri incelendiğinde eğitime olumsuz etkileri görüşü ön plana çıkmaktadır. Diğer taraftan öğretmenlik mesleğine olumsuz etkisi, işlemsel adalet ve öğrenci açısından olumsuzlukları görüşlerinin de katılımcılar tarafından vurgulandığı görülmektedir.

Okul yöneticilerinin görüşlerine göre, alan değişikliğinin çeşitli sakıncaları olmakla birlikte en önemlisi eğitime olumsuz etkileri, olarak ifade edilmektedir. Katılımcılara göre “Bilimsel bakıştan uzak (Y4)”, “Eğitim sistemine şaşı bir bakışın sonucu (Y3)” ve “Günü kurtarma (Y5)” adına yapılan bu uygulama “Eğitimin hedeflerine ulaşmasına darbe vurur (Y4)”, “Eğitime önemsiz olduğunu gösterir (Y4) ve “Ülkenin geleceği için olumsuz bir uygulama (Y4)” dır. Katılımcılar ayrıca alan değişikliğine genel olarak olumsuz bakmanın yanında belli bir süre bir alanda görev yaptıktan sonra başka bir alana geçmeyi de uygun bulmamaktadır.

Okul yöneticileri, alan değişikliği uygulamasına “öğretmenlik mesleğine olumsuz etkisi” olacağı düşüncesiyle de olumlu bakmadıkları yönünde görüş bildirmişlerdir. Bu görüşlerini mevcut öğretmenler bakımından Y1 “Öğretmenlerin yan alan üzerinden geçiş sürecinde yeterlilikleri ne yazık ki belirlenmedi özel eğitim alanına geçiş hariç diğer alanlarda öğretmenler bir eğitim de tabi tutulmadılar.” ifadesini kullanırken, Y2 alan değiştiren öğretmenlerin durumunu “Hiçbir zaman asıl alanında yetişmiş bir öğretmen gibi olamazlar.” şeklinde ifade etmiştir. Y5 ise “Alan değişikliği ile esas alanı olan insanların kadrolarının işgal edilmesi ile adaletsiz bir durum ortaya çıkmaktadır.” şeklindeki ifadesiyle atama bekleyen öğretmenler bakımından uygulamanın sakıncalarını dile getirmiştir.

Tablo 7. Okul yöneticilerinin, alan değiştiren öğretmenlerin mesleki yeterliliğini ne düzeyde gördüklerine ilişkin deneyimleri

Kategori	Kod	Katılımcılar
Olumsuz Tutum	Sayısal alanlara geçenlerin daha fazla zorlanması	Y2
	Başarısı üst düzeyde olan öğrencilere yetememek	Y2,Y4
	Üst sınıfların derslerinde zorlanmak	Y2,Y4
	Velilerin olumsuz tutumu	Y2,Y4
	İçselleştirilmiş alan bilgisinden yoksun	Y3,Y4,Y5
	Özel alan bilgisi bakımından eksikler	Y2,Y3,Y4,Y5,Y6
	Eğitim sürecinde aksaklıklara neden olma	Y4
Yeterli	Değişime ve yeniliklere açık	Y1

Katılımcılar ayrıca uygulamanın “öğrenci açısından olumsuzlukları” olduğu kanaatini taşımaktadırlar. Yöneticilere göre alan değiştiren öğretmenler uyum yönünden ve akademik olarak öğrencileri olumsuz etkileyebilir. Bu durumu Y4 “Öğrencilerin istenen akademik başarıya ulaşabilmelerini olumsuz yönde etkileyen bir uygulamadır.” şeklinde ifade ederken, Y5 “Öğretmen bir alanda 10-15 yıl çalışılmışsa geçişe izin verilmemelidir, çünkü bu uyum problemleri doğurur.” ifadesiyle ortaya koymaktadır.

e) Okul yöneticilerinin, alan değiştiren öğretmenlerin mesleki yeterliliğini ne düzeyde gördüklerine ilişkin deneyimleri, yetersiz ve yeterli olmak üzere iki kategoride yapılandırılarak Tablo 7’te sunulmuştur:

Okul yöneticilerinin, alan değiştiren öğretmenlerin mesleki yeterliliğini ne düzeyde gördüklerine ilişkin deneyimleri incelendiğinde yetersiz görüşünün ön plana çıktığı görülmektedir. Yalnızca bir katılımcı alan değiştiren öğretmenlerin yeterlilik düzeyleri için yeterli şeklinde görüş belirtmiştir.

Katılımcı okul yöneticilerinin geneli alan değiştiren öğretmenlerin mesleki yeterlilik düzeylerini yetersiz görmektedirler. Katılımcılardan Y6 bu öğretmenlerin “Hiçbir eğitim almamalarından dolayı”, Y5 geçtikleri alanla ilgili “Derinlemesine bilgi sahibi değildir” Y4 “İçselleştirilmiş alan bilgisinden yoksun” olduklarını ifade etmişlerdir. Diğer taraftan bu eksikliklerin birçok sorunu da beraberinde getirdiği vurgulanmıştır. Yaşanan bu sorunları Y2 “Sayısal alanlara geçenlerde alan yetersizleri daha belirgindir” ve “İyi öğrenci karşısında yetersizlikleri daha çok ortaya çıkar” şeklinde ifade etmiş, Y4 “7 ve 8.sınıflara ders vermekte zorlanırlar” ve Y2 de “Veliler istemez” şeklinde görüş bildirmişlerdir. Ayrıca alan değiştiren öğretmenlerin mesleki yeterlilik düzeylerini “yeterli” gören bir katılımcı bulunmaktadır. Katılımcı, söz konusu öğretmenlerin mesleki yeterlilik düzeylerini “Değişime ve yeniliklere açık” oldukları şeklinde görüş bildirmek suretiyle yeterli olduğunu ifade etmiştir.

Tablo 8. Yöneticilerin, alan değiştiren bir öğretmenin kendi çocuğunun dersine girmesini isteyip istememesine ilişkin görüşleri

Kategori	Kod	Katılımcılar
İstemem	Öğretim boyutunda çok büyük eksikliklere sahip	Y2, Y6
	Yetersiz olabileceğini düşünme	Y2,Y3,Y4,Y5
	Başarılı olamayacağını düşünme	Y2,Y3,Y4
	Alanında donanımlı olmama	Y2,Y3,Y4,Y5
	Alanı benimsemeyeceğini düşünme	Y1,Y5
	Mesleki tükenmişlik yaşamaları	Y1
Şarta Bağlı	Kendini geliştirmişse olabilir	Y1,Y5
	Hayalini gerçekleştirmek için alan değiştirmişse	Y1

f) Yöneticilerin, alan değiştiren bir öğretmenin kendi çocuğunun dersine girmesini isteyip istememesine ilişkin görüşleri; istemem, şarta bağlı kategorileri altında yapılandırılarak Tablo 8’da sunulmuştur:

Yöneticilerin, alan değiştiren bir öğretmenin kendi çocuğunun dersine girmesini isteyip istememesine ilişkin görüşleri incelendiğinde istemem şeklinde görüşlerin ön plana çıktığı görülmektedir. Az da olsa şarta bağlı şeklindeki görüşler de ifade edilmiştir.

Çalışmanın bulgularına göre, yöneticiler çoğunlukla alan değiştiren bir öğretmenin kendi çocuğunun dersine girmesini istememektedir. Katılımcılar bu görüşü genellikle alan değiştiren öğretmenin birçok bakımdan yetersiz olduğunu düşündüklerinden dolayı ileri sürmektedirler. Bunu Y2 “İstemem, çünkü öğretim boyutunda çok büyük eksiklikleri olduğunu düşünüyorum.” şeklinde ifade ederken, Y3 “Başarılı olamayacağımı düşündüğüm için istemem”, Y1 ise “Mesleki olarak tükenmişlik yaşadıkları için alan değiştiriyorlar, dolayısıyla geçtiği alanda da başarılı olacağını düşünmüyorum.” ve “Kendi alanını benimsememiş bir öğretmenin yan alanını benimsemesini ve başarılı olması ihtimalini düşük görüyorum.” şeklinde açıklamaktadırlar. Diğer taraftan bazı katılımcıların alan değiştiren bir öğretmenin kendi çocuğunun dersine girmesini isteyip istememesi konusuna olumlu yaklaştıkları görülmektedir. Bu tutumunu Y1 “Hayalini gerçekleştirmek için alan değiştirmişse” olabilir şeklinde ortaya koyarken, Y5 ise “Kendini geliştirmişse olabilir” ifadesiyle ortaya koymuştur.

İstihdam politikalarından ücretli öğretmenlik uygulamalarının eğitime nasıl yansıdığını ortaya çıkarmak üzere bu konuda yapılan ulusal makaleler doküman incelemesi yöntemi ile belirlenmeye çalışılmıştır. Bu bağlamda ücretli öğretmenliğin hangi boyutlarda nasıl bir etkisi olduğuna ilişkin ilgili çalışmalar ve sonuçları incelenmiş ve Tablo 9’de gösterilmiştir:

Tablo 9. Ücretli öğretmenliğin eğitime etkileri

Araştırma konusu	Eğitimi olumsuz etkilemesi	Ücretli öğretmenliğin yarattığı psikolojik sorunlar	Rehberlik hizmetlerinde yaşanan sorunlar	Öğrencilerde uyum ve disiplini sorunu	Motivasyon sorunu	Özel alan bilgisi eksikliği	Ölçme-değerlendirmede sorunlar	Öğretim yöntem ve tekniklerini uygulama sorunu	Akademik başarısızlık	Ekonomik sorunlar	Olumsuz çevre tutumu	Gelecek kaygısı	Okul kültürüne uyum sorunu	Öğretmenlik mesleğine olumsuz etkileri
Turan ve Bozkurt (2010) ile Turhan (2011), Ücretli öğretmenlik sistemine ilişkin öğretmen görüşleri	x	x	x					x	x	x		x	x	x
Öğülmüş, Yıldırım ve Aslan (2013), Ücretli öğretmenlerin karşılaştıkları sorunlar ve ücretli öğretmenlik uygulamasının okul yöneticilerince değerlendirilmesi				x							x	x		
Yalçın (2017), Ücretli öğretmenlik uygulamasının öğrencilerin matematik dersine karşı tutum oluşturmadaki etkisi				x	x	x	x	x						
Gül, Kavaklı (2021), Ücretli öğretmenliğin iş doyumu ve iş performansı ile ilişkisi	x				x					x				
Polat (2013), Ücretli öğretmenliğin sorunları				x	x	x		x			x			
Kızıлтаş (2021), Öğretmen hareketliliği ve ücretli öğretmenlik	x			x										
Gözler, Konca (2021), Ücretli öğretmenliğe yönelik algı	x				x				x			x		
Tuncer (2012), Ücretli öğretmenlerin ücretli öğretmenliği değerlendirilmesi	x									x	x			x
Oktay (2012), Türkiye’de öğretmen istihdamında yaşanan sorunlar	x				x				x	x				
Dalı (2017), Ücretli öğretmenlik uygulamaları	x				x	x	x	x		x	x			x
Soydan (2012), Öğretmen istihdamındaki dönüşüm	x													
Güvercin(2014), Öğretmenlik mesleğinde kökten bir dönüşüm: ücretli öğretmenlik														x
Doğan, Demir ve Turan (2013), Ücretli öğretmenlik uygulamasının değerlendirilmesi	x			x	x						x			x
Yılmaz (2018), Ücretli öğretmenlerin karşılaştıkları sorunlar	x	x			x				x					
Eroğlu (2022), Türkiye’de öğretmen istihdamı politikaları	x									x				x
Erol ve Merze (2023), Özel Eğitim Okullarında Ücretli Öğretmenlik Uygulaması ve Uygulamanın Eğitime Yansımaları Hakkında Okul Yönetici Görüşleri	x			x	x	x								x
Evcı, Evcı, Arısan ve Gerçek (2024), Öğretmen istihdam biçimleri: Ücretli öğretmenlik	x				x							x		

İlgili araştırmalarda ücretli öğretmenliğin eğitimi birçok yönden olumsuz olarak etkilediği konusunda görüş birliği olduğu söylenebilir. Turan ve Bozkurt (2010), Oktay (2012), Dalı (2017), Soydan (2012), Yılmaz (2018), Turhan (2011), Eroğlu (2022), Erol ve Merze (2023), Evcı, Evcı, Arısan ve Gerçek (2024), araştırmalarında yetersiz sayıda yapılan kadrolu öğretmen atamalarının ücretli öğretmenlik uygulamasına sebep olduğunu ifade etmekte ve bu durumun eğitim öğretim sürecini olumsuz yönde etkilediğini belirtmektedir. Gözler ve Konca (2021), Gül ve Kavaklı (2021), Eroğlu (2022), tarafından yapılan araştırmalarda ücretli öğretmenlerin kadrolu ve sözleşmeli öğretmenlere kıyasla daha düşük ücret elde ettikleri ve daha düşük performans gösterdikleri belirlenmiştir. Ücretli öğretmenlerin sadece girdikleri dersin ücretini aldıkları, bu ve benzer sorunlar ücretli öğretmenlerin iş doyumunu, dolayısıyla performansını olumsuz etkilediği sonucuna varılmıştır. Araştırmada ayrıca, öğretmenlerin iş doyumunu düzeyleri ile performansları arasında anlamlı bir ilişki olduğu bulgularına ulaşılmıştır. Doğan, Demir ve Turan (2013), Kızıлтаş (2021), Evcı, Evcı, Arısan ve Gerçek (2024), çalışmalarında ücretli öğretmenlik uygulamasının çoğu zaman ücretlerin azlığı,

özlük haklarının yetersiz oluşu ya da KPSS’ye çalışma bahanesi gibi gerekçeler ileri sürülerek istifaların yaşanmasına neden olduğunu belirlemiştir. Bu durumda istifa eden ücretli öğretmenin yerine tekrar ücretli öğretmen görevlendirmek suretiyle eğitim öğretim sürdürülmeye çalışılmaktadır. Bu da alan dışında birçok ücretli öğretmenin sisteme girmesi anlamına gelmektedir ki araştırmalarda bu uygulamanın doğurabileceği sorunlara dikkat çekilmektedir. Tuncer’in (2012), araştırmasında da ücretli öğretmenlik uygulamasının istekle icra edilen bir görevden çok zorunlu nedenlerle yerine getiriliyor olmasından dolayı verimliliğinin ve işlevselliğinin düşük olduğu, ayrıca düşük maliyetlerle eğitim düzeyi daha düşük ve niteliksiz öğretmen istihdam etmenin eğitimde kalite endişelerini attığı ifade edilmektedir.

Turan ve Bozkurt (2010) çalışmalarında eğitimin ayrılmaz bir parçası olan “rehberlik hizmetleri” nin yerine getirilmesinde ücretli öğretmenlerin yetersizliklerine dikkat çekmektedirler. Diğer taraftan Yılmaz (2018), ücretli ilgili araştırmalarda ücretli öğretmenliğin eğitimi birçok yönden olumsuz olarak etkilediği konusunda görüş birliği olduğu söylenebilir. Turan ve Bozkurt (2010), Oktay (2012), Dalı (2017), Soydan (2012), Yılmaz (2018), Turhan (2011), Eroğlu

(2022), Erol ve Merze (2023), Evcı, Evcı, Arısan ve Gerçek (2024), araştırmalarında yetersiz sayıda yapılan kadrolu öğretmen atamalarının ücretli öğretmenlik uygulamasına sebep olduğunu ifade etmekte ve bu durumun eğitim öğretim sürecini olumsuz yönde etkilediğini belirtmektedir. Gözler ve Konca (2021), Gül ve Kavaklı (2021), Eroğlu (2022), tarafından yapılan araştırmalarda ücretli öğretmenlerin kadrolu ve sözleşmeli öğretmenlere kıyasla daha düşük ücret elde ettikleri ve daha düşük performans gösterdikleri belirlenmiştir. Ücretli öğretmenlerin sadece girdikleri dersin ücretini aldıkları, bu ve benzer sorunlar ücretli öğretmenlerin iş doyumunu, dolayısıyla performansını olumsuz etkilediği sonucuna varılmıştır. Araştırmada ayrıca, öğretmenlerin iş doyumunu düzeyleri ile performansları arasında anlamlı bir ilişki olduğu bulgularına ulaşılmıştır. Doğan, Demir ve Turan (2013), Kızıldaş (2021), Evcı, Evcı, Arısan ve Gerçek (2024), çalışmalarında ücretli öğretmenlik uygulamasının çoğu zaman ücretlerin azlığı, özlük haklarının yetersiz oluşu ya da KPSS'ye çalışma bahanesi gibi gerekçeler ileri sürülerek istifaların yaşanmasına neden olduğunu belirlemiştir. Bu durumda istifa eden ücretli öğretmenin yerine tekrar ücretli öğretmen görevlendirmek suretiyle eğitim öğretim sürdürülmeye çalışılmaktadır. Bu da alan dışında birçok ücretli öğretmenin sisteme girmesi anlamına gelmektedir ki araştırmalarda bu uygulamanın doğurabileceği sorunlara çalışan öğretmenlerin çok büyük bir bölümünün çalıştığı okullarda huzurlu olmadığını ve “psikolojik sorunlar” yaşadığını belirlemiştir. Ögülmüş, Yıldırım ve Aslan (2013), Yalçın (2017), ücretli öğretmenlik uygulamasının geçici bir istihdam tipi olmasından kaynaklı olarak sık sık öğretmen değişimini de beraberinde getirdiği ve öğrenciler üzerinde “uyum ve disiplin sorunları” na yol açtığını belirlemiştir. Polat (2013), Doğan, Demir ve Turan (2013), Kızıldaş (2021), ücretli öğretmenlerin karşılaştığı sorunlar bakımından öğrencilerle yaşanan uyum sorunlarının başta geldiği sonucuna ulaşmıştır.

Oktay (2012), Dali (2017), Yılmaz (2018), Gül ve Kavaklı (2021), Gözler ve Konca'nın (2021), Eroğlu (2022), araştırmalarında geçici öğretmenliğin gerek ekonomik olarak gerekse özlük hakları bakımından istenen düzeyde olmamasının çalışanların “motivasyonunu” düşürdüğü, dolayısıyla bunun da öğrenci başarısını olumsuz yönde etkilediği sonucuna varılmıştır. Polat (2013), Doğan, Demir ve Turan (2013), Yalçın (2017), Dali'nin (2017), araştırmalarında hem “özel alan bilgisi” hem de “öğretmenlik yeterlikleri” bakımından ücretli öğretmenlerin yeterli olmadığı ifade edilmiştir.

Turan ve Bozkurt (2010), Polat (2013), Yalçın (2017), Dali (2017), Yılmaz (2018), Gözler, Konca (2021), tarafından yapılan çalışmalarda katılımcılar ücretli öğretmenleri “öğretim yöntem ve tekniklerini uygulama” ile “ölçme ve değerlendirme” bakımından yetersiz bulduklarını, bunun yanında ücretli öğretmenlik uygulamasının getirmiş olduğu başta ekonomik sorunlar olmak üzere diğer sorunların eğitim öğretim sürecinde öğrencilerin “akademik başarısı” nı olumsuz yönde etkilediğini ifade etmişlerdir. Yine ilgili araştırmalarda ücretli öğretmenlerin mesleki yeterlikler bakımından istenilen düzeyde olmayışının eğitim ortamlarında çeşitli sorunlara sebep olduğu sonucuna varılmıştır.

Oktay (2012), Tuncer (2012), Dali (2017), Gül ve Kavaklı

(2021), araştırmalarında ücretli öğretmenlerin kadrolu ve sözleşmeli öğretmenlere kıyasla daha düşük ücret elde ettikleri, ücretli öğretmenlerin sadece girdikleri dersin ücretini aldıkları, sosyal güvenlik primlerinin kısmi olarak yatırıldığı gibi bu ve benzer “ekonomik sorunlara” ulaşmışlardır. İlgili araştırmalarda ekonomik gelir düzeyinin okuldaki uyumu etkileyen önemli bir etken olduğu, geçici statüde çalışan öğretmenlerin elde ettiği ücretin alay konusu olduğu, bu öğretmenlerin geleceğe yönelik eğitim-öğretimi güçlendirici kararlar almalarını beklemenin doğru bir yaklaşım olmayacağı vurgulanmaktadır. Ayrıca düşük maliyetlerle eğitim düzeyi daha düşük ve niteliksiz öğretmen istihdam etmenin eğitimde kalite endişelerini attığı ifade edilmektedir.

Turan ve Bozkurt (2010), Turhan (2011), Oktay (2012), Tuncer (2012), Ögülmüş, Yıldırım ve Aslan (2013), Polat (2013), Doğan, Demir ve Turan (2013), Dali'nin (2017), araştırmalarında velilerin, öğrencilerin, kadrolu öğretmenlerin ve okul yöneticilerinin ücretli öğretmenlik uygulamasından memnun olmadıkları, ücretli öğretmenlik uygulamasının olumsuzluklarının farkında olan velilerin bu görevlendirmeler nedeniyle okul yönetimlerine ve millî eğitim müdürlüklerine baskı yaptıkları, öğrencilerin ücretli öğretmenleri ‘gerçek öğretmen’ olarak görmedikleri ifade edilmiştir. Ayrıca ücretli öğretmenlere yönelik “olumsuz algı ve tutum” nedeniyle ücretli öğretmenlerin statülerinin hem öğrenciden hem de veliden gizlendiği ifade edilmiştir. Turhan (2011), Ögülmüş, Yıldırım ve Aslan (2013), Gözler ve Konca (2021), iş güvencesinden yoksun olarak çalışan ücretli öğretmenlerin “gelecek kaygısı” taşıdıkları ve bunun eğitim süreçlerine olumsuz yansımalarının olduğu, ücretli öğretmenlerin taşıdığı kaygının öğrencileri olumsuz yönde etkilediği sonucuna varılmıştır.

Turan ve Bozkurt (2010), Doğan, Demir ve Turan (2013), Dali (2017), ücretli öğretmenlerin mesleğe bağlılıklarının zayıf olduğu, okula karşı aidiyet duygusu geliştiremedikleri, “okul kültürüne uyum” sağlayamadıkları ve okul kültürüne olumlu katkıda bulunmaları pek mümkün görünmemektedir. Tuncer (2012) okul yönetimi ve öğretmenlerin kadrosuz öğretmenlerle olan iletişiminin oldukça zayıf olduğu, okulun kadrolu personelinin kadrosuz öğretmenlere yönelik olumsuz tutumunun okul iklimine zarar verdiği belirlenmiştir. Güvercin (2014), iş güvencesiz olarak istihdam edilen öğretmenlerin, mesleğine ve benliğine yabancılaştığı, diğer öğretmenlerle dayanışma içerisinde görev yapmak yerine rekabet ve güvensizlik temeline dayanan bir öğretmenlik modelinin geliştiği vurgulanmaktadır.

Turhan (2011), araştırmasında ücretli öğretmenlik uygulamasının “öğretmenlik mesleğinin itibarına zarar verdiğini” ifade etmiştir. Güvercin (2014), ise ücretli öğretmenlik uygulamasının öğretmenlik mesleğinde köklü bir değişikliği de beraberinde getirdiği, iş güvencesiz olarak görev yapan öğretmenlerin eğitim öğretimin ana aktörü olmaktan çok asli görevi denetim ve gözetim olan bir çalışana dönüşmekte olduğu, dolayısıyla öğretmenlik mesleğinin etkisizleştirildiği sonucuna varmıştır.

Türkiye’de orantısız öğretmen hareketliliğinin eğitime yansımaları, bölgelere göre uluslararası PISA ve TIMSS sınavlarından elde edilen puanlar bağlamında ortaya konulmaya çalışılmıştır.

Tablo 10. Türkiye’de bölgelere göre öğretmen hareketliliği ve uluslararası sınavlarla ilişkisi

Bölge	Yıllara Göre Görev Yaptığı Bölgeden Ayrılan Öğretmen Sayısı ve Oranı			Ortalama Görev Süresi	PISA 2018		TIMSS 2019	
	Yıl	Sayı	Oran (%)		Okuma	Fen	Mat	Fen
İstanbul	2015	3.841	%6,4	5,1 yıl	Okuma	479,9	Mat	540,0
	2016	3.857	%6,9		Mat	465,6		
	2017	4.870	%7,8		Fen	481,2		
Batı Marmara	2015	1.724	%2,9	5,1 yıl	Okuma	500,6	Mat	514,3
	2016	1.471	%2,6		Mat	468,0		
	2017	1.993	%3,2		Fen	489,0		
Doğu Marmara	2015	3.553	%5,9	5,1 yıl	Okuma	481,6	Mat	560,3
	2016	3.092	%5,6		Mat	475,5		
	2017	4.159	%6,6		Fen	488,3		
Ege	2015	3.574	%5,9	4,7 yıl	Okuma	471,2	Mat	551,0
	2016	3.071	%5,5		Mat	452,4		
	2017	3.917	%6,2		Fen	473,8		
Batı Anadolu	2015	2.710	%4,5	4,7 yıl	Okuma	479,4	Mat	548,1
	2016	2.827	%5,1		Mat	469,7		
	2017	3.740	%6,0		Fen	481,9		
Akdeniz	2015	4.126	%6,9	4,9 yıl	Okuma	469,8	Mat	519,0
	2016	3.789	%6,8		Mat	462,5		
	2017	4.642	%7,4		Fen	468,3		
Orta Anadolu	2015	3.240	%5,4	4,9 yıl	Okuma	442,5	Mat	544,3
	2016	2.498	%4,5		Mat	424,4		
	2017	3.439	%5,5		Fen	445,4		
Batı Karadeniz	2015	2.907	%4,8	4,8 yıl	Okuma	483,2	Mat	510,5
	2016	2.311	%4,2		Mat	467,5		
	2017	3.526	%5,6		Fen	479,5		
Doğu Karadeniz	2015	2.323	%3,9	4,8 yıl	Okuma	452,1	Mat	547,2
	2016	1.782	%3,2		Mat	438,0		
	2017	2.271	%3,6		Fen	460,5		
Kuzeydoğu Anadolu	2015	6.417	%10,7	3,1 yıl	Okuma	423,6	Mat	486,4
	2016	5.869	%10,6		Mat	411,0		
	2017	6.264	%10,0		Fen	430,6		
Ortadoğu Anadolu	2015	9.320	%15,5	3,1 yıl	Okuma	409,4	Mat	495,6
	2016	8.955	%16,1		Mat	407,4		
	2017	8.487	%13,5		Fen	423,5		
Güneydoğu Anadolu	2015	16.459	%27,3	3,2 yıl	Okuma	430,8	Mat	477,2
	2016	16.044	%28,9		Mat	425,9		
	2017	15.391	%24,5		Fen	437,2		

*Tablo 10 PISA 2018 Türkiye Ön Raporu, TIMSS 2019 Türkiye Ön Raporu ve GAP Bölge Kalkınma İdaresi’nin Güneydoğu Anadolu Bölgesinde öğretmen hareketliliği projesi değerlendirme raporundan (2018) elde edilen verilerle oluşturulmuştur.

Öğretmen hareketliliği ile uluslararası sınav puanları (MEB, 2019; MEB, 2020) arasındaki karşılaştırmalar için 2015-2017 yılları arasında öğretmenlerin görev yaptığı bölgeden ayrılma oranlarının ortalaması (GAP Bölge Kalkınma İdaresi, 2018) alınmış, bu veriler üzerinden istatistik analizler yapılmıştır. Öğretmen hareketliliği ile uluslararası sınav puanları arasında Kolmogorov Smirnov ve Shapiro Wilk testleri yapılarak normallik dağılımına bakılmış, verilerin normal dağılmaması üzerine non parametrik testler yapılmıştır.

Öğretmenlerin bölgeden ayrılma oranı ile sınav puanları arasındaki ilişkiyi ortaya çıkarmak için birincil veriler üzerinden Spearman Korelasyonu katsayısına bakılmıştır. Elde edilen veriler Tablo 11’de gösterilmiştir.

Buna göre, öğretmen hareketliliği oranı ile uluslararası pisa-okuma sınav puanları arasında anlamlı ve ters orantılı bir ilişki ortaya çıkmıştır ($r_{\text{spearman}} = -.627, p = .015$). Öğretmen hareketliliği oranı düştükçe PISA-OKUMA puanlarının arttığı görülmektedir. Öğretmen hareketliliği oranı ile uluslararası PISA-FEN sınav puanları arasında anlamlı ve ters orantılı bir

ilişki ortaya çıkmıştır ($r_{\text{spearman}} = -.571, p = .026$). Öğretmen hareketliliği oranı düştükçe PISA-FEN puanlarının arttığı görülmektedir. Öğretmen hareketliliği oranı ile uluslararası TIMSS -FEN sınav puanları arasında anlamlı ve ters orantılı bir ilişki ortaya çıkmıştır ($r_{\text{spearman}} = -.529, p = .039$). Öğretmen hareketliliği oranı düştükçe TIMSS -FEN puanlarının arttığı görülmektedir. Öğretmen hareketliliği oranı ile PISA-MAT ve TIMSS -MAT sınav puanları arasında ise anlamlı bir ilişki tespit edilmemiştir. Elde edilen veriler uluslararası TIMSS ve PISA sınav puanlarının öğretmen hareketliliğinden etkilendiğini göstermektedir. Buna göre, öğretmen hareketliliğinin yüksek olduğu Doğu Anadolu ve Güneydoğu Anadolu Bölgelerindeki uluslararası sınav puanlarında düşüş gözlemlenirken; öğretmen hareketliliğinin düşük olduğu bölgelerde ise sınav puanlarında artış gözlemlenmektedir.

Bölgelere göre öğretmenlerin ortalama görev süresinin uluslararası sınav puanlarına etki edip etmediğini tespit etmek için Kruskal Wallis Testi yapılmıştır.

Tablo 11. Çalışmadaki Değişkenlerin Betimleyici İstatistikler ve Spearman Korelasyonu

Değişken	n	PISA-OKUMA	PISA-MAT	PISA-FEN	TIMSS -MAT	TIMSS -FEN
Öğretmen hareketlilik oranı	12	-,627*	-,466	-,571*	-,452	-,529*

**Anlamlılık düzeyi 0.01

* Anlamlılık düzeyi 0.05

Tablo 12. Sınav puanlarının, öğretmenlerin bölgelerdeki ortalama görev süresine göre farklılaşması

Öğretmen Değişimi	N	Kruskal Wallis H	
		χ^2	p
PISA-OKUMA	12	6,846	,033*
PISA-MAT	12	5,346	,069
PISA-FEN	12	6,269	,044*
TIMSS -MAT	12	7,615	,022*
TIMSS -FEN	12	7,192	,027*

Tablo 13. Gruplar arasındaki fark

	Gruplar	N	Sıra Ortalaması	Sıra Toplamı	U	P
PISA-OKUMA	2.Grup	6	6,50	39,00	-2.324	,020
	3.Grup	3	2,00	6,00		
	1.Grup	3	5,00	15,00	-1,964	,050
	3.Grup	3	2,00	6,00		
PISA-MAT	2.Grup	6	6,33	38,00	-2.066	,039
	3.Grup	3	2,33	7,00		
	1.Grup	3	5,00	15,00	-1,964	,050
	3.Grup	3	2,00	6,00		
PISA-FEN	2.Grup	6	6,50	39,00	-2.324	,020
	3.Grup	3	2,00	6,00		
	1.Grup	3	5,00	15,00	-1,964	,050
	3.Grup	3	2,00	6,00		
TIMSS -MAT	2.Grup	6	6,50	39,00	-2.324	,020
	3.Grup	3	2,00	6,00		
	1.Grup	3	5,00	15,00	-1,964	,050
	3.Grup	3	2,00	6,00		
TIMSS -FEN	2.Grup	6	6,50	39,00	-2.324	,020
	3.Grup	3	2,00	6,00		
	1.Grup	3	5,00	15,00	-1,964	,050
	3.Grup	3	2,00	6,00		

Buna göre; PISA-OKUMA, PISA-FEN, TIMSS -MAT ve TIMSS -FEN puanları öğretmenlerin bölgelerdeki ortalama görev süresine göre anlamlı bir farklılık göstermektedir. Öğretmenlerin bölgedeki ortalama görev süresi arttıkça uluslararası sınav puanlarında artış gözlemlenirken, öğretmenlerin daha az görev yaptığı bölgelerde bu sınavlardan elde edilen puanlar düşmektedir.

Farklılıkların hangi gruplar arasında olduğunu anlamak için Mann-Whitney U Testi yapılmıştır.

1.grup; İstanbul, Batı Marmara ve Doğu Marmara'dan oluşmakta olup, bu gruptaki öğretmenlerin ortalama görev süresi 5,1 yıldır. 2. grup; Ege, Batı Anadolu, Akdeniz, Orta Anadolu, Batı Karadeniz ve Doğu Karadeniz bölgelerinden oluşmakta ve bu gruptaki öğretmenlerin ortalama görev süresi 4,7 yıl ila 4,9 yıl arasında değişmektedir. Öğretmenlerin ortalama görev süresinin 3,1 ila 3,2 yıl arasında değiştiği 3. grup ise Kuzeydoğu Anadolu, Ortadoğu Anadolu ve Güneydoğu Anadolu bölgelerinden oluşmaktadır. Bu bağlamda Tablo 13'te $p < .05$ değerlerinden anlaşılacağı üzere öğretmenlerin bölgedeki ortalama görev süresine göre 2. grup ve 3. grup arasında uluslararası sınav puanları bakımından pisa-matematik testi dışındaki diğer testlerde anlamlı bir farklılık tespit edilmiştir. Bu farkın 2. grupta yer alan bölgelerin lehine olduğu görülmektedir. Etki değeri= $z/\sqrt{n_1+n_2}$ formülüyle hesaplandığında, etki değeri= $2,324/\sqrt{6+3}= 0,7746$

bu değer öğretmenlerin bölgedeki ortalama görev süresinin 2. ve 3. grup arasında sınav puanlarına 2. grubun lehine oldukça etki ettiğini göstermektedir.

Tablo 13'te $p < 0.05$ değerlerinden anlaşılacağı gibi öğretmenlerin bölgedeki ortalama görev süresine göre 1. grup ve 3. grup arasında ise uluslararası sınav puanları bakımından tüm testlerde anlamlı bir farklılık tespit edilmiştir. Bu farklılık da 1. grupta yer alan bölgeler lehinedir. Etki değeri= $z/\sqrt{n_1+n_2}$ formülüyle hesaplandığında, etki değeri = $1,964/\sqrt{3+3}=0,801$. Bu değer öğretmenlerin bölgedeki ortalama görev süresinin 1. ve 3. grup arasında sınav puanlarına, 1. grubun lehine oldukça etki ettiğini göstermektedir.

Sonuç, Tartışma ve Öneriler

Araştırmada, Türkiye'de öğretmen istihdam politikalarının eğitime etkilerini ortaya çıkarmak üzere; alan değişikliği uygulaması, ücretli öğretmenlik uygulaması ve bölgelere göre önemli farklılıklar gösteren öğretmen hareketliliği konuları üç ayrı alt amaçta incelenmiştir. Birinci alt amaçta alan değişikliği uygulaması ele alınmış, alan değiştiren öğretmenlerin; imkânlarının çekiciliği, alana karşı ilgi duymak, özel eğitimde çalışma olanakları ve istemedikleri bir alanda görev yapmalarından dolayı alan değiştirdikleri sonucuna varılmıştır. Alan değiştiren öğretmenlerin özel alan bilgisinde eksiklik hissetme, uyum sorunu yaşama ve çevrenin

kendilerine karşı olumsuz tutum sergilediği sonucu elde edilmiştir. Çalışmada ayrıca alan değiştiren öğretmenlerin genel olarak önceki alanlarına dönmek istemedikleri anlaşılmaktadır. Çalışmada okul yöneticileri ise alan değişikliği uygulamasının eğitime ve öğretmenlik mesleğine olumsuz yansımalarının olduğunu, ayrıca alan değiştiren öğretmenlerin mesleki yeterliliklerini düşük bulduklarını ifade etmişlerdir. Araştırmadan elde edilen bu sonuçlara paralel olarak Ersözlü, Maviş, Özel ve Kürşadoğlu, (2014), Çelik ve Taç (2021), Öztaş ve Dündar (2021), Erol ve Karsantik (2021) da çalışmalarında; tayinlerde öncelikli olabile, norm kadro fazlası olmama, prestij sağlama, ders yükünden kurtulma gibi nedenlerle öğretmenlerin alan değiştirdikleri sonucuna varmıştır. Gökyer (2014) çalışmasında mezun olduğu alan dışında başka bir alan geçen öğretmenlerin eğitimde nitelik sorunlarına sebep olacağı; Sıcak, Arslan ve Burunsuz (2015) ile Öztaş ve Dündar (2021) da alan değiştiren öğretmenlerin çoğunluğunun çeşitli sebeplerden dolayı uyum sorunları ve zorluklar yaşadıkları sonucuna ulaşmıştır. Tüysüz, Özer, Bozkurt ve Özdemir (2013) alan değiştiren öğretmenlerin önceki alanlarında kendilerini daha yeterli gördükleri sonucuna ulaşmıştır. Diğer taraftan Türk-Eğitim Sen (2012) Millî Eğitim Bakanlığına yazmış olduğu yazıda tayin olamama, norm kadro fazlası olma ve başka nedenlerle zorunlu olarak alan değiştiren öğretmenlerin bir kısmının; geçtikleri alanda yetersiz oldukları, uyum sağlayamadıkları bundan dolayı mutsuz oldukları ve psikolojik sorunlar yaşadıklarını öğretmenlerin mektuplarından alıntılanarak ifade etmiş ve bu öğretmenlerin tekrar eski alanlarına dönmeleri talebinde bulunmuştur.

2012 yılında 4+4+4 sisteminin uygulamaya konulmasıyla ilkokullarda binlerce öğretmen norm kadro fazlası durumuna düşmüş, ortaokullarda ise öğretmen ihtiyacı doğmuştur. Ortaokullardaki bu ihtiyacı gidermek, ilkokullardaki norm kadro fazlası öğretmenleri de eritmek amacıyla alan değişikliği uygulamasına gidilmiş ve Türk-Eğitim Sen’in (2012) ulaştığı verilere göre 2012 yılında 30326 öğretmen alan değiştirmiştir. Ayrıca Millî Eğitim Bakanlığı, 2011’de Öğretmen İstihdam Projeksiyonları Stratejileri ve Sistemlerinin Geliştirilmesi Projesi (İKOP) kapsamında ilk defa kendi alanı dışında istihdam edilen öğretmen oranlarını açıklamıştır. Bu oran sınıf öğretmenliği’nde %55.5, İngilizce’de %53.4, Türkçe’de 48.3, fen ve teknolojiye %74.6, okulöncesi öğretmenliğinde %33.5, özel eğitim öğretmenliğinde %37.9, matematik ve tarihte %26.5, fizik, kimya ve biyolojide %30, coğrafyada %33 şeklindedir (ERG, 2015). Görüldüğü üzere uzmanlık alanı dışında istihdam edilme oranı bu kadar yüksek iken 2012 yılındaki alan değişikliği uygulamasıyla bu oran daha da artmıştır. İlgili araştırmalar, hem alanı dışında atanan öğretmenlerin hem de meslek içinde alan değiştiren öğretmenlerin önemli bir kısmının bulunduğu alanda mutlu olmadığını göstermektedir. Bu bağlamda öğretmen istihdamındaki alan değişikliği uygulamasının eğitimin niteliğini olumsuz yönde etkileyebileceği, öğretmenlerin mezun oldukları alanlarda istihdam edilmesinin eğitim sistemini daha güçlü hale getirebileceği söylenebilir.

Araştırmanın ikinci alt amacında ücretli öğretmenlik uygulamasının eğitime yansımaları irdelenmiştir. Bu bağlamda ilgili makalelerde ücretli öğretmenlerin kadrolu ve sözleşmeli öğretmenlere kıyasla daha düşük ücret elde ettikleri ve daha düşük performans gösterdikleri (Gözler ve Konca, 2021; Gül ve Kavaklı, 2021); ücretli öğretmenlik uygulamasının çoğu zaman ücretlerin azlığı, özlük haklarının

yetersiz oluşu ya da KPSS’ye çalışma gerekçesi gibi nedenleri sürülerek istifaların yaşanmasına sebep olduğu ve istifa edenlerin yerinin de yine ücretli öğretmenlerle doldurulduğu (Doğan, Demir ve Turan, 2013) sonucuna varılmıştır. Bununla bağlantılı olarak da sık öğretmen değişiminin öğrenciler üzerinde “uyum ve disiplin sorunları”na yol açtığı (Öğülmüş, Yıldırım ve Aslan, 2013; Yalçın, 2017) vurgulanmaktadır. Öte yandan düşük maliyetlerle, eğitim düzeyi daha düşük ve niteliksiz öğretmen istihdam etmenin eğitimde kalite endişelerini artırdığı (Tuncer, 2012), geçici öğretmenliğin gerek ekonomik olarak gerekse özlük hakları bakımından istenen düzeyde olmamasının çalışanların “motivasyonunu” düşürdüğü ve kendilerini mutsuz hissettikleri, bunun da öğrenci başarısına olumsuz yansıdığı (Oktay, 2012; Dali, 2017; Yılmaz, 2018; Gül ve Kavaklı, 2021; Gözler ve Konca, 2021; Ushurova ve diğerleri, 2023) sonucuna ulaşılmıştır. Ayrıca “rehberlik hizmetleri”nin yerine getirilmesi ile (Turan ve Bozkurt, 2010) “özel alan bilgisi” ve “öğretmenlik yeterlikleri” bakımından (Polat, 2013; Doğan, Demir ve Turan, 2013; Yalçın, 2017; Dali, 2017) ücretli öğretmenlerin yeterli olmadığı anlaşılmaktadır. Diğer taraftan birçok araştırmada ücretli öğretmenlerin mesleğe bağlılıklarının zayıf olduğu, okula karşı aidiyet duygusu geliştiremedikleri, “okul kültürüne uyum” sağlayamadıkları (Turan ve Bozkurt, 2010; Doğan, Demir ve Turan, 2013; Dali, 2017; Tuncer, 2012; Güvercin, 2014) sonucuna varılmıştır.

Ücretli öğretmenlik uygulaması ile ilgili yapılmış olan akademik çalışmalar ile ulusal ve uluslararası kuruluşların raporlarının tamamında uygulamanın sakıncaları vurgulanmaktadır. (ERG, 2015; MEB, 2017; Türk Eğitim Sen, 2020). MEB Öğretmen Strateji Belgesi’nde (2017) de ücretli öğretmenliğin okullar arasında eğitimin kalitesini farklılaştırdığı, eğitimde eşitsizliğe neden olduğu ve bakanlığın hedefleri doğrultusunda öğretmen ihtiyacının ücretli öğretmenler yerine sözleşmeli öğretmenlerle giderilmeye çalışılacağı ifade edilmektedir. Ancak, Türk Eğitim Sen’in (2022) araştırmasına göre, Türkiye genelinde 2021-2022 eğitim-öğretim yılında 85 bin 513 ücretli öğretmen görevlendirilmiş ve sonraki yılda da ücretli öğretmen görevlendirmeleri devam etmiştir. Bir eğitim sisteminin gücünü öğretmenlerinden aldığı düşüncesinden hareketle, tüm vatandaşlara eşit ve kaliteli eğitim imkânı sunulması ve okullar arasındaki eşitsizliklerin giderilmesi bakımından ücretli öğretmenlik uygulamasından vazgeçilip kadrolu öğretmenlerin sisteme dâhil edilmesi ile Türkiye’de eğitim sisteminin önemli ölçüde iyileştirilebileceği düşünülmektedir.

Araştırmanın üçüncü alt amacında ise Türkiye’de orantısız öğretmen hareketliliğinin eğitime yansımaları, uluslararası sınavlar bağlamında ortaya konulmaya çalışılmıştır. Araştırma sonuçlarına göre uluslararası TIMSS ve PISA sınav puanlarının öğretmen hareketliliğinden etkilendiği, öğretmen hareketliliğinin yüksek olduğu Doğu Anadolu ve Güneydoğu Anadolu Bölgelerindeki uluslararası sınav puanlarının daha düşük olduğu gözlemlenirken; öğretmen hareketliliğinin az olduğu bölgelerde ise sınav puanlarının yüksek olduğu gözlemlenmektedir. Araştırmada ayrıca uluslararası TIMSS ve PISA sınav puanlarının öğretmenlerin bölgelerdeki ortalama görev süresine göre değişiklik gösterdiği; öğretmenlerin bölgedeki görev süresi arttıkça sınav puanlarının arttığı, bölgedeki görev süresi azaldıkça sınav puanlarının da azaldığı sonucuna ulaşılmıştır. Araştırma sonuçlarıyla paralel olarak Güneydoğu Anadolu Bölgesinde öğretmen sirkülasyonunun (yer değiştirme hareketliliğinin) eğitimdeki en önemli sorunların başında geldiği (Ushurova ve diğerleri, 2023;

Altun, 2019), bunun da öğrenme kazanımlarını olumsuz etkilediği (Kesbiç, 2021) ifade edilmektedir. Bununla birlikte Köse Şirin, Üçkardeşler ve Dinçer'in (2014) araştırmasında öğrenci devamsızlığı ile sık öğretmen değişimi arasında ilişki olduğu, öğretmen değişiminin yüksek olduğu illerde öğrenci devamsızlığının da yüksek olduğu görülmüştür. Aynı araştırmada sık öğretmen değişiminden dolayı öğrencilerin bir bölümünün okuma-yazma dahi öğrenmeden ilkokulu bitirdikleri ve bu öğrencilerin ortaokulda dersleri takip etmekte zorluk yaşadıkları, bu nedenle devamsızlığın ve okul terklerinin yüksek olduğu ifade edilmiştir.

MEB son yıllarda öğretmen atamalarının %70'inden fazlasını Doğu ve Güneydoğu Anadolu Bölgelerine yapmasına rağmen bir türlü bu bölgelerdeki öğretmen açığı kapatılamamaktadır. Doğu ve Güneydoğu Anadolu Bölgelerine atanan öğretmenler üç yıllık zorunlu çalışma sürelerini doldurur doldurmaz eş durumu, sağlık ve güvenlik gibi çeşitli mazeretler öne sürerek bölgeden ayrılmakta ve yerlerine ya ücretli öğretmenler görevlendirilmekte ya da yeniden öğretmen atanmaktadır. Bu da öğrencilerin bazen yılda birkaç kez öğretmenlerinin değişmesini beraberinde getirmektedir. Neredeyse her yıl aynı döngünün yaşandığı bölgede hem tecrübesiz öğretmenler görev yapmakta hem de öğretmenler bölgede çok az süre kalmaktadırlar. MEB öğretmen istihdamındaki bu önemli sorunu Doğu ve Güneydoğu Anadolu Bölgelerinde görev yapmayı cazip hale getirerek çözülebilir. Bu bölgelerde görev yapan öğretmenlerin başta güvenlik endişelerinin giderilmesi olmak üzere ilave ücret ödenmesi ve konut yardımı yapılması gibi birçok farklı uygulamayla bölgede daha uzun süre görev yapmaları sağlanabilir. Böylelikle ücretli öğretmenlik uygulamasının önemli ölçüde ortadan kaldırılacağı gibi eğitimde bölgeler arası eşitsizliklerin de en az seviyeye indirilebileceği düşünülmektedir.

Araştırma sonuçları, öğretmenlerin mezun oldukları alan dışında istihdam edilmelerinin eğitimin niteliğini olumsuz yönde etkilediğini ortaya koymuştur. Özellikle ücretli öğretmenlik ve orantısız öğretmen hareketliliğinin ülkenin doğusunda ve kentlerde gelir düzeyinin düşük olduğu kenar mahalle okullarında yoğunlaştığı görülmektedir. Dolayısıyla orantısız öğretmen hareketliliği ile ücretli öğretmenlik uygulaması arasında sebep sonuç ilişkisinden bahsedilebilir.

Araştırmada alan değişikliği, ücretli öğretmenlik ve orantısız öğretmen hareketliliği olmak üzere üç konu istihdam politikaları bağlamında ele alınmıştır. Eğitim istihdamının planlama ile başlayıp öğretmen yetiştirme ve ihtiyacı karşılayacak öğretmen atama işlevinin alan değişikliği ve ücretli öğretmen ile doldurulmaya çalışılmasında eğitime etkilerinin istenmeyen sonuçların olduğu anlaşılmaktadır. Ayrıca öğretmenlerin çalışma bölgelerinde orantısız hareketliliğin de eğitime olumsuz yansıdığı göstermiştir. Buna ilave olarak bu durum eğitimde zaten var olan eşitsizlikleri artırmakta ve eğitim sisteminin sorunlarını daha da derinleştirmektedir. Bu bağlamda Türkiye'de, eğitim politikaları ve öğretmen istihdam politikalarının bölgeler arası ve okullar arası farklılıkları gidererek bütün vatandaşlara eşit ve nitelikli eğitim sunulması bakımında sosyal kapsayıcılık sağlayacak şekilde yeniden düzenlenmesi bir zorunluluk olarak durmaktadır.

Yazar Katkı Oranı

Araştırmanın ilk yazarı makale yazma aşamalarının hepsini gerçekleştirmiştir. İkinci yazar makalenin yazımı konusunda

fikir vererek yayına hazır hale getirilmesini sağlamıştır. Makale her iki yazarın ortak katkıları ile hazırlanmıştır.

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Extended Abstract

Education plays an important part in bringing up the qualified human resources needed for the development of countries. It is possible to see the fulfilment of this role only if a society has well-trained and highly qualified teachers. Well-trained teachers form the basis of not only the social development but also high-quality education.

The way teachers are recruited bears importance in establishing high-quality education. As a part of examining the education policies for teacher employment, education planning stands as the priority to focus on. Educational planning is the application of a rational and regular analysis technique to the education process in order to increase educational efficiency and to respond to the needs of the society at the highest level (Aydın et al., 2014). There are several purposes of education planning such as to predict the results of the solutions targeting the bottlenecks in the education sector, to lay the general framework of a long-term plan, to determine the objectives based on the said framework, and to develop a detailed plan to realise these objectives (Aydın, 2010). It is difficult to directly determine the impact of different types of employment of teachers on the quality of education and identify related variables based on the prepared plans. Factors such as student and parent profiles, socio-economic status, school culture and the climate, and leadership are also involved in the quality of education in addition to teacher qualifications. This research focuses on teacher mobility of different types of employment, including switching fields, hourly-paid teaching, and teacher relocation. The study aims to indirectly assess the impact of these types of employment on education by using the experiences of teachers and school principals, content analysis of relevant studies, and international exam results based on teacher mobility.

Method

This research consists of three objectives to reveal the effects of field change, hourly-paid teaching application, and unbalanced teacher mobility in different regions of Turkey. Among mixed methods research patterns, "Fully Mixed Sequential Dominant Status Design" was selected in this study. The present study was designed in qualitative-quantitative-quantitative sequence. The research was carried out with two study groups. The first consisted of nine teachers who previously taught their major but were later transferred to their minor teaching field. The other sub-group was composed of six principals managing the schools where these teachers were working in their new branch at the time of the study. At the first stage of the research, a semi-structured interview form of open-ended items was developed by the researchers as the data collection instrument. The interview form was prepared in two versions, one addressed to teachers and the other to school administrators. In the second stage, which was planned to explore the effects of "hourly-paid teaching" policy, data were collected through document analysis. In the last stage, the data was collected via scanning of the state reports. Similar to the data collection process, the analysis was also carried out in three stages. First, the data obtained through interviews were analyzed with content analysis method. In the following stage, the data obtained through review of the academic papers were read in detail and themes were elicited. The data were processed with thematic analysis and then interpreted for readers to make sense of it (Corbin & Strauss,

2008). In the last stage, the statistical data obtained from the MoNe and GAP Regional Development Administration reports were analyzed by using relational tests provided by SPSS, and the results were interpreted accordingly.

Discussion and Conclusion

This study scrutinized the impact of three chosen teacher employment policies on education in Turkey, which are field change, hourly-paid teaching, and greater difference in teacher mobility between different regions of the country, as three distinct objectives. Regarding the first objective, the practice of field change was discussed. The results showed that field-switching teachers did so due to the benefits in the new field, their interest in the new field, job potentials of the new field for special education, and having worked in the unfavourable field. The teachers who changed teaching fields perceived themselves deficient in their special field knowledge, had compliance problems, and faced a low opinion towards themselves in their social and professional circle. Also, it was understood that field-changing teachers are not eager to teach their major again. When it comes to the school administrators' views, they stated that field change has negative consequences for education and the teaching profession, and those teachers have weaker professional competence.

In 2012, a new schooling model was introduced in Turkey. Called 4+4+4, this new plan resulted in the changing status of thousands of primary school teachers. Most classroom teachers were reserved as redundant staff members while the need for teachers increased in middle schools. In order to meet this need in middle schools and to appoint the surplus classroom teachers, field change application was launched. Türk-Eğitim Sen (2012) announced that a total of 30.326 teachers changed their field of teaching within the year 2012. In addition, the Ministry of National Education announced the rate of teachers employed outside their field for the first time in 2011 within the scope of the Development of Teacher Employment Projections Strategies and Systems Project (IKOP). It was seen that 55.5% of classroom teachers, 53.4% of English, 48.3% of Turkish, 74.6% of science and technology, 33.5% of preschool teachers, 37.9% of special education, 26.5% of mathematics and history, 30% of physics, chemistry and biology teachers, and 33% of geography teachers were teaching a field other than their background (ERG, 2015). As can be seen, such a high rate of employment outside the field of specialization even increased more with the application of the field change policy in 2012. The literature shows that a considerable portion of teachers who have been appointed in a field other than their major and those who have changed their teaching field are discontent with their new area. It can be suggested that field change as a teacher employment policy may adversely affect the quality of education, but directing this labor force to the teachers' fields of graduation is likely to strengthen the education system.

With regard to the second objective, the outcomes of hourly-paid teaching for education was investigated. Previous research has shown that hourly-paid teachers earn lower wages and perform lower than permanent and contracted teachers (Gözler & Konca, 2021; Gül & Kavaklı, 2021). It was also seen that hourly-paid teaching application often gives rise to resignations of teachers under the excuse of low wages, poor personal rights, and sparing time to study for KPSS. In addition, the vacancies are occupied by new hourly-paid teachers (Doğan et al., 2013). As a consequence of frequent teacher replacements, compliance and discipline problems are

observed among students (Öğülmüş et al., 2013; Yalçın, 2017). Moreover, employment of unqualified teaching staff with inadequate educational background for the sake of incurring lower fees raises the concern about the quality of education (Tuncer, 2012). Temporary teaching positions are not satisfactory for the employees both financially and legally. This lowers the "motivation" of the employees and makes them troubled, which in turn does harm to student success (Oktay, 2012; Dali, 2017; Yılmaz, 2018; Gül & Kavaklı, 2021; Gözler & Konca, 2021; Ushurova et al., 2023). Additionally, hourly-paid teachers are not found capable of providing "counselling services" (Turan & Bozkurt, 2010), possessing adequate "special content knowledge" and "teaching competencies" (Polat, 2013; Doğan et al., 2013; Yalçın, 2017; Dali, 2017). Many other studies reported that hourly-paid teachers have weaker attachment to their profession, they cannot develop a sense of belonging to the school, and they cannot adjust to the "school culture" (Turan & Bozkurt, 2010; Doğan et al., 2013; Dali, 2017; Tuncer, 2012; Güvercin, 2014).

It was seen that drawbacks of hourly-paid teaching came to light in all of the academic papers and reports of national and international organizations examined here (ERG, 2015; MEB, 2017; Türk Eğitim Sen, 2020). In the Ministry of National Education Teacher Strategy Document (2017), it is stated that hourly-paid teaching practice leads to nonstandardised education in schools and inequality in education, and that the Ministry will try to narrow the teacher gap by hiring contracted teachers instead of hourly-paid teachers. Nonetheless, Türk Eğitim Sen (2022) showed that 85.513 teachers were employed on hourly-pay basis during the 2021-2022 academic year across Turkey and this employment method remained in effect throughout the following year. Keeping in mind that education system obtain its power from its teachers, it is believed that the Turkish education system can be significantly improved if hourly-paid teaching application is left to employ teachers in permanent positions, equal and high-quality education opportunities are provided for all citizens, and inequalities between schools are eliminated.

Finally, the third study objective was to examine the effects of disproportionate teacher mobility on education in Turkey by analyzing the international test scores. The results showed that TIMSS and PISA exam scores of students were affected by teacher mobility. Specifically, the scores obtained from these international exams were lower in Eastern Anatolia and Southeastern Anatolia, where higher teacher mobility rates are recorded, compared to the regions with less mobility of teachers. Also, TIMSS and PISA scores varied depending on the stability of teachers in the given regions. In other words, the exam scores were higher in regions where teachers worked steadily for longer periods. In contrast, the exam scores decreased as the teachers' working period in a region decreased. Other scholars also concluded that higher circulation of teachers in Southeastern Anatolia is one of the major problems in national education (Altun, 2019; Ushurova et al., 2023) since it undermines achievement of learning outcomes (Kesbiç, 2021). Köse Şirin, Üçkardeşler, and Dinçer (2014) demonstrated that there is a relationship between student absenteeism and frequent teacher replacement, and that student absenteeism is high in provinces where teacher replacement is high. The researchers also found out that due to frequent teacher changes, some students leave the primary school illiterate so they can barely learn lessons in the middle school, and they end up with a high rate of absenteeism and dropouts.

Lately, the Ministry of National Education has appointed more than 70% of teachers in Eastern and Southeastern Anatolia Regions. Still, the shortage of teachers in these two regions is persisting. Teachers sent to these parts of Turkey soon stop working there by making various excuses. The resulting vacancies are either filled by hourly-paid teachers or they remain open until new teachers are appointed there. In some cases, students complete one academic year after being taught by several teachers rather than one same teacher. This cycle in Southeastern Anatolia is repeated almost yearly; as a result, not only students keep learning from inexperienced teachers but also teachers work in this region for quite short. This serious problem in teacher employment might be resolved if the Ministry of National Education offers inviting working conditions in Eastern and Southeastern Anatolia Regions. In the first place, teachers' security concerns should be terminated for a peaceful experience. Other measures for ensuring a longer period of working in the region, the teachers could be given additional wages and housing in that region. It is thought that in this way hourly-paid teaching practices could recede and also educational inequalities between regions can be minimized.

This study addressed the influence of certain teacher employment policies such as field change, hourly-paid teaching and unbalanced teacher mobility across regions on education. The results proved that all these practices harm education in Turkey. In particular, the hourly-paid teaching and unbalanced teacher mobility are more widespread in the eastern part of the country and in the suburban schools where the families' income level is low. This situation worsens the existing inequalities in education and deepens the flaws in the education system. To ensure social inclusiveness, it seems imperative to rearrange the education policies and teacher employment policies in Turkey so that inequalities among regions and schools can be eradicated and qualified education can be equally made available to all citizens.

Author Contributions

The first author of the study carried out all stages of writing the article. The second author provided ideas on the writing of the article and ensured that it was ready for publication. The article was prepared with the joint contributions of both authors.

Ethical Declaration

This study was conducted by the Sivas Cumhuriyet University Educational Sciences Research Proposal Ethics Evaluation Board with the approval decision numbered 308455 dated 22.06.2023.

Conflict of Interest

The authors declare that there is no conflict of interest with any institution or person within the scope of the study.

An Evaluation of Syntactic Complexity, Lexical Diversity and Text Length as Predictors of Foreign Language Writing Scores

Sözdizimsel Karmaşıklık, Sözcük Çeşitliliği ve Metin Uzunluğunun Yabancı Dil Yazma Puanlarının Belirleyicisi Olarak Değerlendirilmesi

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Abstract: The main premise of this study is to investigate to what extent syntactic complexity (SC), lexical diversity (LD), and text length (TL) correlate to foreign language (FL) writing quality scores assigned by human judges for the English essays of 204 pre-service teachers of English of two different curricular levels (first and fourth-year students). The study adopts a sequential-explanatory mixed-method research design. To that end, eight instructors rating student papers for 16 years on average were interviewed. The statistical analyses reveal that the 4th-year students outperformed the 1st-year students in TL, writing scores, and five indices of SC and LD. Subsequent regression analyses explained the variance in overall writing scores. The qualitative results showed variability in the instructors' ability to detect and prioritize these linguistic features, showing that while some instructors had a nuanced understanding of SC and LD, others emphasized overall content and organization more than linguistic complexity. The role of syntactic complexity, linguistic diversity, and text length as predictors of foreign language writing quality revealed that while human raters recognize these linguistic features to varying extents, their evaluation can be enhanced through standardized assessment practices and the integration of automated tools.

Keywords: Composition, proficiency, writing assessment, English as a second foreign language

Öz: Bu çalışmanın ana amacı, İngilizce deneme yazılarının değerlendirilmesi için insan hakemler tarafından verilen yabancı dil yazma kalite puanlarını ne ölçüde cümle yapısı karmaşıklığı (CYK), kelime çeşitliliği (KC) ve metin uzunluğu (MU) öngörebileceğini incelemektir. Çalışma, ardışık-açıklayıcı karma yöntem araştırma tasarımını benimser. Bu amaçla, ortalama 16 yıl öğrenci yazılarını değerlendiren 8 öğretmenle görüşmeler yapılmıştır. İstatistiksel analizler, 4. sınıf öğrencilerinin MU, yazma puanları ve CYK ve KC'nin toplam 5 göstergesinde 1. sınıf öğrencilerinden daha başarılı olduğunu ortaya koymuştur. Ardından yapılan regresyon analizleri, genel yazma puanlarının varyansını açıklamıştır. Nitel sonuçlar, öğretmenlerin genel puanlama prosedürüne ve CYK ve KC'yi puanlama sürecinde ne kadar iyi kavrayıp dikkate aldıklarına ilişkin içgörüler sağlamıştır.

Anahtar Kelimeler: Kompozisyon, yeterlilik, yazma değerlendirmesi, ikinci yabancı dil olarak İngilizce

Susoy, Z. & Durmuşoğlu Köse, G. (2024). An evaluation of syntactic complexity, lexical diversity and text length as predictors of foreign language writing scores. *Erzincan University Journal of Education Faculty*, 26(4), 542-553. <https://doi.org/10.17556/erziefd.1483282>

Introduction

Writing instruction necessitates a process fundamental to a student's academic career. Students who struggle to express themselves clearly in writing may underachieve in class and possibly fail to graduate. Most of these risks come from high-stakes exams requiring advanced first-language (L1) writing abilities (Jenkins et al., 2004). Writing proficiency has a significant impact on academic success in L1 primary and higher education, as well as on future professional endeavors (Geiser & Studley, 2001). These advanced L1 writing abilities have been linked to sophisticated linguistic traits and linguistic elaboration (McNamara et al., 2010). Writing in a highly qualified manner in foreign languages (FL) has also been found to contain linguistic traits connected to more complex languages (McNamara et al., 2009). In the vast majority of prior research, the sophistication of language employed in written FL works, which influences writing quality evaluations, was primarily connected with syntactic complexity (SC) and lexical diversity (LD) (Crossley and McNamara, 2010, 2011; Ellis & Yuan, 2004; Lu, 2011; Mazgutova & Kormos, 2015). However, the notion of 'complexity' is a complex notion itself, in which complexity and diversity mostly overlap. According to Bulte and Housen (2012), L2 complexity has been handled from two basic perspectives: global complexity and local complexity. The first refers to the general L2 system of the learners and its dynamic nature, while the second refers to the particular items

and structures. Following this distinction, we use the "global" view to define complexity and variety in our study:

"The learner's L2 system or "repertoire" that is, the quantity, variety, and richness of various structures and items the learner knows or employs—is referred to as global or system complexity. Examples of this include whether the learner is proficient in a small or large range of words or grammatical structures, whether he controls all or only a portion of the L2 sound system, and so on" (Bulte & Housen 2012, p. 25).

According to Ortega (2012), up to now, the greatest number of researchers has concentrated on at least three key objectives while looking into complex issues in L2: "a) defining and measuring proficiency, b) describing and comparing performance, c) understanding how development proceeds concerning different factors such as age, initial competence, aptitude for language learning, and input quantity and quality" (p. 128). The threefold premise of the current investigation is similar. The learner's L2 system identifies correlations and determines how much a syntactic complexity and lexical variety—the quantity, variety, and richness of learner-knows structures and items the student uses, "repertoire"—is called global or system complexity (Hmelo et al., 2000). Examples can range from whether or not someone knows many or few words and grammatical structures in their second language while also taking into account how much of the actual sound system they have mastered. Global

complexity or system complexity is when someone talks about the second language acquisition system or the “repertoire” of learners. Repertoire refers to the quantity, diversity, and affluence of different structures and items available in a student's knowledge base or active production process. For instance, examples are, if a learner can range through many or few words and/or grammatical structures, if either all or part of the L2 sound system is under his control or not. The student's language system in the foreign language or “repertoire”—meaning the amount, diversity, and number of distinct structures and more specific items that a learner knows in a given language—is termed as general or systemic complexity. For example, one learner may be proficient with only a few words or structures while another may know many more but still not all of them as well as he would like in speaking; still others may come close to mastering some features though always falling short somewhere else. The student's L2 system is known as system complexity at the global level or it is his/her or her global or systemic complexity. For instance, according to a paper by Muter et al. (2004), whether a learner is good at a small or big range of words or grammatical structures can be one of the examples. A different illustration is if he controls the overall sound system of L2. Global or systemic complexity indicates the extent, diversity, or richness of structures or items that the learner knows or uses in a second language. This is evident when the learner knows few or many words and grammar rules, controls some or all the sounds in L2, etc. To account for this diversity in writing quality among FLs, it examines how these factors relate to human ratings for FL writing quality.

The present study's second objective is to appraise the proposed connection between syntactic complexity, lexical diversity, and writing quality in second language learner writings from both developmental-based and proficiency perspectives in a more human-like manner that would appeal more to the general audience of researchers and educators who are working together with us on this project. (Crossley & McNamara, 2014; Ortega, 2012; 2015). The current study's third premise is to explore the perceptions of instructors related to SC and LD who have been scoring undergraduates' academic writing in an English Language Teaching Department. Thus, we aim to see the extent to which these instructors are aware of SC and LD in their scoring procedures. The findings and recommendations made by earlier studies are inconsistent and have a variety of flaws, including a small amount of data, learners' identical proficiency profiles, and insufficient sampling (Ortega, 2003). However, the present research suggests that using a reliable text-processing tool to incorporate several metrics across differing proficiency levels in one extensive dataset might offer a clearer view concerning how syntactic complexities are related to lexical diversities in the field of FL writing. In addition, our participating students are EFL pre-service instructors who are expected to instruct English language and FL writing at various levels, in contrast to the research that has been examined.

Literature Review

Measuring Syntactic Complexity and Lexical Diversity: Methods and Problems

Numerous measures of SC and LD have been proposed in the literature. For decades, there have been research initiatives to

identify and validate a trustworthy measure of these constructs (Ortega, 2003; Wolfe-Quintero et al., 1998). The majority of this research has concentrated on identifying the measure(s) that might be objectively used to gauge writing proficiency, tracking SC and LD components in writing. The amount of data, the operationalization of the language tasks and genres in the data collection processes, as well as the variability and consistency of the complexity measures, lead to discrepancies in the findings of these studies (Lu, 2010; 2011; Ortega, 2003; Wolfe-Quintero et al., 1998). The inability to pool the findings of earlier studies is hampered by not just the inconsistent metrics utilized but also their scarcity and the small amount of available data. For instance, only four of the twenty-five cross-sectional studies evaluated in Ortega's (2003) thorough analysis of the development of syntactic complexity in writing in a foreign or second language that used four to five different metrics. Only three metrics were used in the other twenty-one investigations. The mean number of words in each written sample is 234 with a standard deviation of 110, while the average number of written data obtained in these investigations was fewer than 100. In subsequent work, the same issues persisted. For instance, in one study only clauses per-T Unit measures were used to syntactically examine 300 learner emails (Stockwell & Harrington, 2003). In a different study, Beers and Nagy (2009) employed mean clause length in addition to the T-unit ratio to assess 41 essays in two different genres, Ellis and Yuan (2004) used only clauses per T-unit measure to analyze 52 narratives. Text length as a measure of syntactic complexity, however, poses serious problems of reliability. Although text length was often associated with overall writing quality scores assigned by human judges (Guo et al., 2013), some other studies showed that text length does not necessarily increase along with syntactic complexity indices (Becker, 2010; Stockwell, 2005)

Also, problems arise when trying to measure lexical diversity. The first method applied in the past in the measurement of lexical diversity is several different words (NDW). The major challenge for NDW is that it relies too much on text length. “Most probably the number of different words in a language sample will depend on the total number of words in total” as stated by Malvern et al. (2004). This is the fundamental problem facing lexical (vocabulary) diversity measurements” (p. 16). Another one of the most widely applied lexical diversity measures is the type-token ratio (TTR). While type counts the variety of words in the text, token counts the entire number of words in the text. Thus, it has been recommended to employ a type/token ratio to enhance the reliability of NDW. It is more precise to calculate a ratio instead of just counting unique words, but TRR suffers from the same problem as for text length.

Recent Computational Approaches to the Measurement of SC and LD

The study of big textual material in terms of linguistic components has become possible because of the current availability of computing tools for discourse processing. Coh-Metrix, an automated tool for precise and thorough textual analysis, conveniently provides specific syntactic difficulty and lexical diversity indices (Graesser et al., 2004). Table 1 following provides a general summary of Coh-Metrix.

Table 1. Questions and answers about Coh-Metrix

Questions	Answers
What is Coh-Metrix?	Computational linguistics and recent advances in text processing technologies have lately created a large sum of complicated discourse indicators. A team at the Institute for Intelligent Systems at The University of Memphis has developed a text processing tool named Coh-Metrix that incorporates these novel and sophisticated text indices (McNamara et al., p. 164)
What function does it serve?	Coh-Metrix provides a wide number of linguistic and discourse features of a text through plentiful indices of readability, language, and cohesion. Coh-Metrix provides its textual analysis whereby automated syntactic trees and parsing, and latent semantic analysis as well as “conventional textual metrics like average sentence and word lengths and the readability formulae of Flesch Reading Ease and Flesch-Kincaid Grade Level (Klare, 1974–1975)” (McNamara, et. al., 2014).
Why should we rely on Coh-Metrix?	Syntactic complexity and lexical diversity research have started to widely benefit from Coh-Metrix for the analysis of multilevel textual features (Graesser et al., 2011) to offer subtler predictors. There has been a broad approval and employment of the tool in the related research community. The syntactic and lexical indices provided by this automated tool have been validated by several recent studies that investigated linguistic textual features as well as textual cohesion, coherence, lexical diversity, and lexical proficiency (Crossley & McNamara, 2011; Crossley et al., 2011; McNamara et al., 2010)
What are we specifically using it for?	In our study, we are peculiarly interested in three syntactic complexity and two lexical diversity indices.

Research Questions

The current study seeks to provide answers to the following research questions based on its stated objectives:

1. Is there a difference between syntactic complexity, lexical diversity, text length, and writing quality scores of learners at different curricular levels?
2. What is the relationship between syntactic complexity, lexical diversity, text length, and L2 writing quality scores assigned by human raters?
3. To what extent are syntactic complexity and lexical diversity pertinent in the perception of writing instructors who evaluate undergraduates' academic writings?

Methods

Participants

Three cohorts make up the study's participants. Table 2 shows that most participants are undergraduate and senior ELT students, with teachers and raters making up a small part of the group. The students are exposed to a variety of academic genres in spoken and written form, and they are required to produce language in the form of numerous assignments, reports, and presentations during their four-year degree program in ELT at a Turkish public university. As Wolfe-Quintero et al. (1998) wrote, “program level may be the most valid developmentally” (p. 9). We acknowledge that our first- and fourth-year students may have different levels of linguistic proficiency in light of the claim that syntactic complexity and lexical diversity in L2 writing develop over time with more instruction and exposure and vary across proficiency levels (Harley & King, 1995; Linnarud, 1986; Mazgutova & Kormos, 2015; Treffers-Daller et al., 2016; Vyatkina, 2015).

Table 2. Distribution of participants

Participants	Number
4 th Year Students	102
1 st Year Students	102
Instructors	8
Raters	3
Total	215

Secondly, we obtained our qualitative data through semi-structured interviews with eight instructors who had been working in the same public university's four-year ELT program. The mean year of experience of instructors in teaching and assessing student writing was 16.6. Thirdly, two different scorers—one with over thirty years of expertise in teaching and grading various types of academic writing, one with over ten years of experience in teaching and assessing academic writing, and an English-native speaker who is pursuing her MA in the ELT program—evaluated the essays. A third scorer was recruited to resort to only when there was an inconsistency of 1 point or more between the two scorers.

Procedures

In this study, a sequential-explanatory mixed-method research design was employed to investigate the relationship between SC, LD, and writing quality scores in FL essays. The design was chosen to integrate quantitative and qualitative approaches in a structured manner. In the first phase, quantitative data were collected through statistical analyses, focusing on how SC, LD, and text length predicted overall writing scores assigned by human raters. Quantitative analyses included independent t-tests, correlation analyses, and hierarchical regression to examine the relationships among the variables.

In the second phase, qualitative data were gathered through semi-structured interviews with eight instructors, each with an average of 16 years of experience in rating student papers. This phase aimed to further explain the quantitative results by exploring how the instructors perceived SC and LD during the writing assessment process. The qualitative insights provided a deeper understanding of the factors influencing the scoring procedures and how instructors integrated syntactic complexity and lexical diversity into their judgments. This two-phase approach allowed for a comprehensive analysis, where the qualitative data helped to interpret and explain the patterns observed in the quantitative results.

Materials and Data Collection

We gathered an undergraduate student learner corpus as the core data of the present study. The corpus was compiled in a

way that minimized the confounding effects of task (Ellis & Yuan, 2004, p. 78; Ong & Zhang, 2010; 2013) and text variables (Beers & Nagy, 2009; Halliday & Hassan, 1985; Ravid, 2005) such as genre (i.e., opinion essay) and task conditions (i.e., timed and unplanned writing within the article). Our decision-making procedure for choosing the writing topic for the opinion essay included consulting the opinions of experts via a specifically created questionnaire. This procedure aimed to immobilize the so-called topic effect. The questionnaire was comprised of 10 topics, all of which were compiled from an IELTS study recommendation page found on <http://ieltsliz.com/100-ielts-essay-questions/education/> web address. The selected topics were about education, university and campus life, learning, and teaching in general. The candidate topics were presented to 20 experts who had been teaching or scoring student writing in the same department where the study was conducted. The experts were required to select the top three subjects that they believed our participants could write about with maximum ease and amount. The topic prioritized the most by 15 experts and thus selected for the current study was:

“University students frequently have a selection of housing options. The options available to them include living in town apartments, private student houses, or dorms on campuses. Which place would you rather live? Why? Give the rationale for your choice.”

Afterward, the topic was placed on a writing sheet that was designed for the data collection procedure with the duration of the task, which was one hour- slightly more than a regular class hour.

The present study is based on a mixed research paradigm. Therefore, it utilizes a qualitative inquiry, as well. We profited

from semi-structured interview questions to investigate the degree to which syntactic complexity and lexical diversity are involved in the perceptions of human scorers. We conducted interviews with eight instructors who had been grading students' academic papers and recorded their answers. The researcher derived the semi-structured interview questions from the related literature. After seeking expert comments throughout two feedback sessions, the questions were finally revised and given their final forms.

Data Analysis and Tools

All essays were typed on Microsoft Word 2016 once they had been collected and were then processed using Coh-Metrix. The intended indices about lexical diversity and syntactic complexity were provided by Coh-Metrix. Data analysis and tools can be seen in Table 3.

The syntactic complexity and lexical diversity indices provided by Coh-Metrix as well as writing quality scores were transferred into a statistical analysis software SPSS for further analysis. The total of five intended SC and LD indices provided by the Coh-Metrix interface can be seen in the following Figures 1 and 2:

For the qualitative inquiry, procedures suggested by both Weber (1990) and Creswell (2012) were employed. Firstly, the researcher broadly read the transcribed data on several occasions by taking margin notes by hand. These margin notes, afterward, evolved into broad themes which were few. The first themes, after having been discussed for feedback with an expert, were transferred into NVivo 11 pro, which is a qualitative analysis tool for further and detailed analysis (see Figure 3).

Table 3. Overview of research methodology

Research Questions	Number of Participants (n)	Variables at Play	Statistical Analysis
1) Is there a statistical difference between syntactic complexity, lexical diversity, text length, and writing quality scores of learners at different curricular levels?	204	*Mean number of words before the main verb *Mean number of modifiers per noun clause *Syntactic similarity *Measure of Textual Lexical Diversity (MTLD: McCarthy and Jarvis, 2010) *VocD (Malvern et.al., 2004). *Text length *Overall Writing Quality Scores	*Descriptive Statistics *Independent Samples T-Tests
2) What is the relationship between syntactic complexity, lexical diversity, text length, and L2 writing quality scores assigned by human raters?	204	Same as above	*Correlation Analysis *Hierarchical Regression Analysis
3) To what extent are syntactic complexity and lexical diversity pertinent in the perception of writing instructors who evaluate undergraduates' academic writings?	8	Transcribed interviews	Content Analysis on NVivo

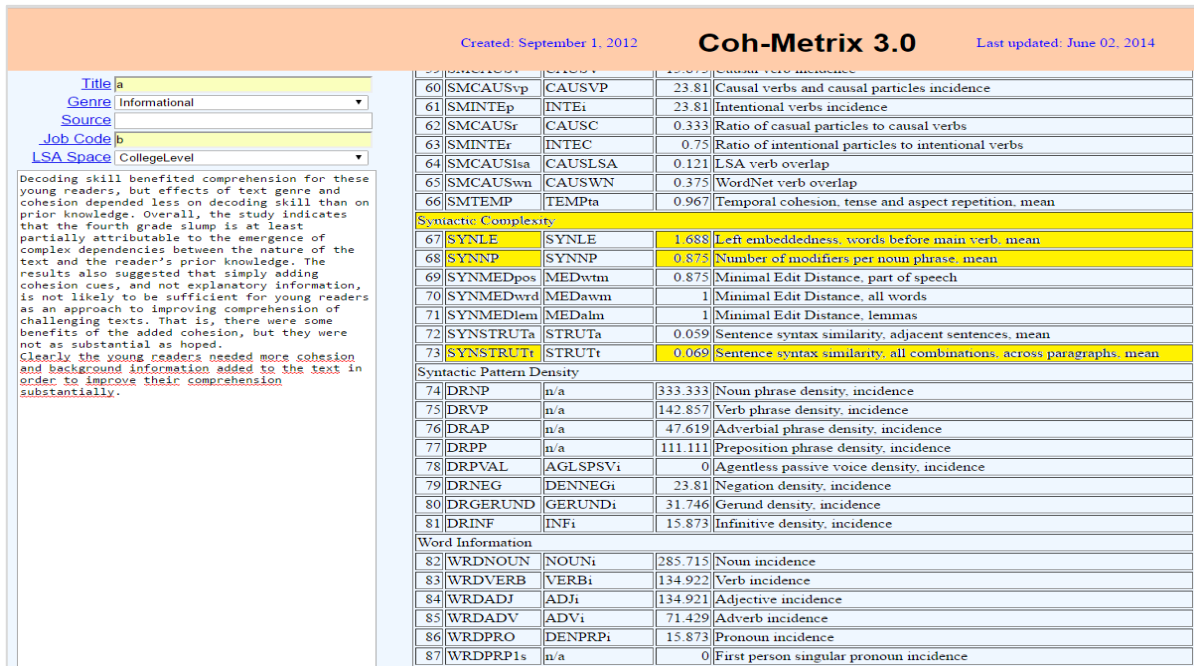


Figure 1. A Coh-Metrix screenshot displaying syntactic complexity indices

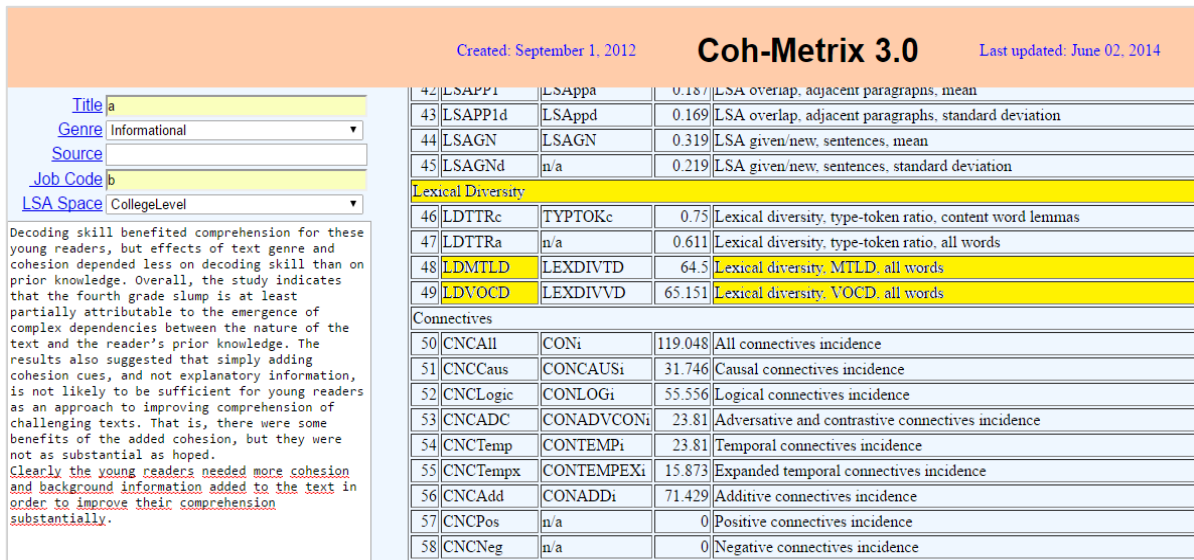


Figure 2. A Coh-Metrix screenshot displaying lexical diversity indices

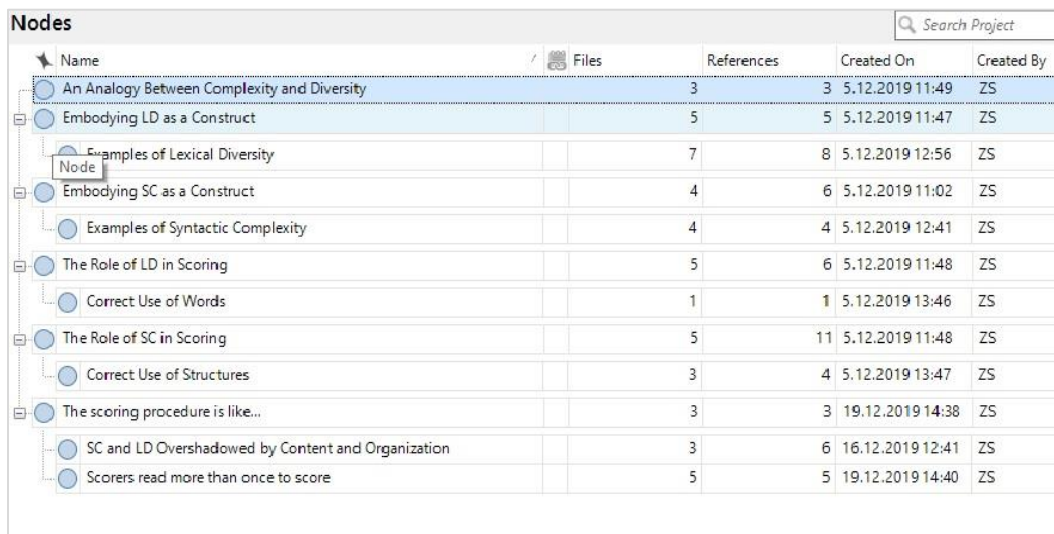


Figure 3. Screenshot for the categorical themes created on NVivo

The first drawn themes were labeled as codes in NVivo and thoroughly read more than once to define persistent codes.

Overall Scoring and Intra-rater/inter-rater Reliability Check

The essays were rated by two separate raters: one with over thirty years of experience in teaching and grading various kinds of academic writing, one with over ten years of experience in teaching and assessing academic writing, and a native speaker of English who is following her MA degree in the ELT program. When there was a discrepancy of more than one point between two raters, a third rater was brought in. A standardized rubric used to score TOEFL iBT essays was employed to assess the quality of the essays (see Appendix). This rubric uses a scale of 0 to 5 to evaluate essays' overall quality, with 5 being the best possible grade.

Our scorers scored the student papers twice to ensure intra-rater reliability along with inter-rater reliability. The second scoring was carried out 6 months after the first one. The reliability check procedure was run separately across two groups of participating students. Running the Pearson product-moment correlation across scorers and scoring sessions is one method to assess the inter- and intra-rater reliability (Evans, 1996). The scorers' pseudonyms were the initial letters of their actual names (Rater Z and Rater B).

Table 4 displays both the intra-rater reliability and the inter-rater reliability across scorings for first-year students.

In terms of intra-rater reliability, though on a medium scale, only Rater Z displayed a statistically significant correlation between her scores. When it comes to inter-rater reliability scores, the two scorers – though statistically significant again- could show a weak consistency between themselves in both of the scoring procedures. Table 5 displays

Table 4. Results of Pearson correlations coefficients between two raters across two scoring procedures (for 1st-year students' scores)

	Rater Z 1st Scoring	Rater Z 2nd Scoring	Rater B 1st Scoring	Rater B 2nd Scoring
Rater Z 1st Scoring	1			
Rater Z 2nd Scoring	.449**	1		
Rater B 1st Scoring	.342**	.198*	1	
Rater B 2nd Scoring	.003	.047	.132	1

** Correlation is significant at the 0.01 level (2-tailed).

Table 5. Results of Pearson correlations coefficients between two raters across two scoring procedures (for 4th-year students' scores)

	Rater Z 1st Scoring	Rater Z 2nd Scoring	Rater B 1st Scoring	Rater B 2nd Scoring
Rater Z 1st Scoring	1			
Rater Z 2nd Scoring	.509**	1		
Rater B 1st Scoring	.546**	.346**	1	
Rater B 2nd Scoring	.331**	.316**	.469**	1

Table 6. A numerical comparison of 1st and 4th year students' essays

Curricular Level	n	Total Word Count	Min.	Max.	M	Std. Deviation
1 st Year Students	102	28.648	113	473	281	71.619
4 th Year Students	102	36.861	127	685	361	113.792

Table 7. Results of independent samples t-test for writing quality scores by curricular level

	1 st Year Students			4 th Year Students			t	df	p
	M	SD	n	M	SD	n			
Writing Quality in the First Scoring	3.2	3.20	102	3.7	.619	102	-9.95	202	.000
Writing Quality in the Second Scoring	3.5	.329	102	3.8	.344	102	-6.66	202	.000

both the intra-rater reliability and the inter-rater reliability across scorings for the fourth-year students.

We observe some higher correlation values when it comes to the intra and inter-rater reliability values in the essays of fourth-year students. Rater Z and Rater B achieved higher correlations both within themselves and between each other in both of the scoring procedures.

Results

Curricular Level Differences Among the Investigated Variables

In this subsection, we aimed to answer the first research question of our study which was questioning whether there was a difference between text length, overall writing quality, syntactic complexity, and lexical diversity scores of learners at different curricular levels (e.g. 1st and 4th year students).

Differences in Text Length

An independent samples t-test was run to find out if the mean differences in word count between groups were statistically significant or not. In Table 6, the t-test finding showed that 4th-year students' essays (M=361,38; SD=113,7) contain more words than 1st-year students' essays (M=280,86; SD=71,6) and that this mean difference is statistically significant $t(202) = 6,048, p = .000$.

Differences in Overall Writing Scores

An independent samples t-test was conducted to see if there is a significant difference between 1st year and 4th-year students' writing quality scores. There was a significant difference between the means of 1st-year students' writing quality scores (M=3.2, SD=.3.20) and 4th-year students' writing quality scores (M=3,7, SD=.619) as displayed in Table 7.

Table 8. Results of independent samples t-test for ‘3 SC indices of Coh-Metrix’ by curricular level

	1 st Year Students			4 th Year Students			t	df	p
	M	SD	n	M	SD	n			
Number of words before the main verb	3.76	.123	102	4.15	.124	102	-2.24	202	<.05
Mean Number of Modifiers per Noun Phrase	.577	.121	102	.636	.136	102	-3.25	202	<.001
Syntactic Similarity	.111	.028	102	.121	.033	102	-2.36	202	<.05

Table 9. Results of independent samples t-test for ‘2 LD indices’ by curricular level

	1 st Year Students			4 th Year Students			t	df	p
	M	SD	n	M	SD	n			
MTLD	68.37	14.27	102	71.51	15.67	102	-1.49	202	>.05
VocD	75.70	15.46	102	80.59	14.89	102	-2.23	202	<.05

Specifically, these results suggest that our 4th-year students scored higher than the 1st-year students and this difference in the mean scores was found to be statistically significant [t (202) = -9.957, p = .000].

Differences in Syntactic Complexity

In independent samples t-test results, we found a mean difference in the number of ‘words coming before the main verb’ in each sentence of the compositions of 1st (M=3.76 SD=1.24) and 4th-year students (M=4.15 SD=1.26), these mean differences are statistically significant as seen in Table 8.

Second, Coh-Metrix provides noun phrase (NP) density and the mean ‘number of modifiers per NP’ as a syntactic complexity index. A statistically significant mean difference was found in this index as well. The fourth-year students used a higher number of modifiers per NP than 1st-year students and this difference was found statistically significant (p < .001). Third, the mean scores of 1st (M=.111 SD=.028) and 4th-year students (M=.121 SD=.033) in the ‘syntactic similarity’ index of Coh-Metrix were also different; these mean differences were found to be statistically significant. However, Coh-Metrix measures syntactic similarity differently from the other two syntactic complexity indices, which is important to notice. In other words, the lower the number, and less comparable the structures are, indicating a broader variety of syntactic structures used in an essay.

Differences in Lexical Diversity

We used lexical diversity indices reported by Coh-Metrix, which are more sophisticated, and reliable than traditional measures like TTR and free from text length effect. They, namely, are the Measure of Textual Lexical Diversity (MTLD: McCarthy and Jarvis, 2010) and VocD (Malvern et al., 2004).

We found statistically significant differences within two measures for lexical diversity between compositions written by students in the first year and those in the fourth year. The 4th-year students outperformed the 1st-year students in both indices based on different mean scores, but only in VocD was the difference statistically significant as shown in Table 9.

Correlations of Syntactic Complexity, Lexical Diversity, and Text Length with Writing Quality and Variances Explained

In this section, we aim to answer our 2nd research question which was about the relationships of syntactic complexity, lexical diversity, and text length with writing quality scores. We computed a Pearson product-moment correlation coefficient to examine the relationship between Syntactic Similarity and the Number of Modifiers, Number of words before a Main verb, MTLD, VocD, Text Length, and Writing Quality. The value is displayed in Table 10. Text length, though moderate but on a statistically significant scale, showed the highest positive correlation with writing quality. As comes to SC and LD, only two modifiers per NP2 and VocD could yield weak but statistically significant positive correlations with the dependent variable. It is noticeable that human scorers could not grasp subtle details related to the complexity and diversity of a text from a syntax or vocabulary perspective, which is discussed more in detail in the Discussion part.

Another noteworthy finding of the correlation test is that LD indices positively correlated with each other implying that these are valid and reliable indices. The same goes for SC indices as well with one subtle difference. The ‘Syntactic similarity’ index negatively correlated with other Coh-Metrix indices since it worked peculiarly. Higher scores of ‘syntactic similarities’ are a sign of repeating patterns of syntax and repetitive vocabulary in contrast to complexity and diversity notions.

Table 10. Results of Pearson correlations coefficients among seven variables

	Syntactic Similarity	Number of Modifiers	Number of words before the Main verb	MTLD	VocD	Text Length	Writing Quality
Syntactic Similarity	1						
Number of Modifiers	-.219**	1					
Number of words before the Main verb	-.417**	.383**	1				
MTLD	-.222**	.246**	.223**	1			
VocD	-.139*	.192**	.156*	.815**	1		
Text Length	.038	.155*	.170*	.011	.053	1	
Writing Quality	.092	.141*	.110	.088	.177*	.449**	1

** Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

Table 11. Hierarchical multiple regression analysis with a three-layered model (dependent variable; writing quality overall scores)

Model	R	R Square	Standard Error	F Model	R Square Change	F Change
Text Length	.449	.202	.422	51.02*	.202	51.02*
Lexical Diversity Indices	.480	.230	.416	19.95**	.029	3.72**
Syntactic Complexity Indices	.495	.245	.415	10.66**	.015	1.28**

Variances Explained in Writing Quality Scores

Hierarchical Multiple Regression Analysis with a Three-Layered Model is displayed in Table 11. The hierarchical multiple regression analysis regarding the factors that influence students' overall writing scores. It indicates that text length by itself was a significant predictor, accounting for 20.2% of the variance in the writing scores, meaning it had a strong impact on how the scores varied. In contrast, when looking at SC and LD together, they could only explain 4.4% of the variance, suggesting that while these linguistic features do contribute to the scores, their combined influence was much smaller compared to text length. Essentially, text length was the most significant factor in determining writing quality, while SC and LD played a more limited role.

Unfolding SC and LD: Embodying them as a Construct

In this section, we responded to the third research question, which was designed to explore how ELT teachers view LD and SC as they evaluate undergraduates' academic writing. The first theme focuses on how eight instructors who have been grading essays for students for an average of 16 years have conceptualized SC and LD.

Complex writing is associated with the use of various clauses (adverbial, adjective, and noun clauses) and conjunctions. Simple sentences following a subject-verb-object order are considered elementary, and a lack of these complex structures in writing diminishes its sophistication. (Inst.5)

Lexical diversity, including synonyms, antonyms, idiomatic expressions, and chunks, is vital in writing. In tasks like cause-and-effect essays, students should avoid repetitive phrases like "first cause" and use varied terms such as "impact" or "influence" to display linguistic sophistication. (Inst.1)

Providing structural variety is one of the most prominent features that have been associated with SC. Likewise, the repetitive and frequent word use is seen as contrary to LD since, as the name implies, lexical diversity is closely related to the wide range of words, both in meaning and number. When it comes to the examples or signs of SC and LD in a text, the instructors regard using passive structures and prepositions correctly as well as embedded structures and inversions are among the patterns that signal SC;

Using advanced-level vocabulary, especially noun forms of verbs, is viewed as a mark of higher proficiency. Less common vocabulary elevates the perceived quality of the writing. (Inst.8)

In the interviews, noun forms, synonyms, antonyms, phrasal verbs, and collocations were counted as the patterns of lexical usage that point out LD;

I can say [lexical diversity is in the writings] which consists of advanced level vocabulary and perhaps noun forms. Noun forms of most verbs are accepted as more advanced. Therefore, [the use of less common vocabulary] (Inst.2)

The interviewees' comments highlight that varied use of both syntax and vocabulary should be accurate and appropriate for the task. The task requirements and linguistic accuracy, for the sake of SC and LD, should not be given up.

The Role of SC and LD in Scoring the Students' Essays

In our analysis, we focused on the question of how syntactic complexity perceived by our instructors affects their scores. We already reported what kind of constructions would evoke syntactic complexity in our instructors' minds. Two instructors discuss their high expectations for English language teaching majors, stating that these students should have a high degree of language ability and show this proficiency in their writing by using syntactically complicated sentences. According to these professors, employing solely straightforward yet true statements will not result in good marks:

We are telling them [our students], 'You are going to be English teachers.' So, there must be a level of mastery. They must show us that they can use different forms and structures. If you are only using simple sentences, even if they are grammatically correct, you may not get high grades. I expect that complexity. (Inst.3)

If sentences are accurate but simple, they cannot get high scores because what I expect from an ELT student is not simplicity (Inst.6)

Similarly, according to an instructor, in addition to affecting the language score of the writing, a large variety of vocabulary can reflect a vast variety of writing idea units:

[Lexical diversity] I think affects the language score. If the language is correct, of course, this will positively affect the content. There's a difference between a student always saying 'thing or cause' to express an idea. However, if they use 'thing' sometimes and 'cause' at others, this variety, I suppose, affects the content score. (Inst.2)

Inst 2 above stated the close relation of linguistic and rhetorical features of a text to be evaluated while saying that LD could also affect the content of the writing. In that verbatim quotation and elsewhere, we witnessed that content and organizational patterns may overshadow SD and LD. Our instructors, as they reported in interviews, make an order of importance on their minds while reading student papers and in this order of importance, content and organization come first, leaving SC and LD behind. One instructor (Inst. 7) said that "an essay written with a good command of English can make me suppose that the content is also well developed, thus at the very beginning I divide these dimensions from each other". The below given verbatim quotations exemplify the point;

I generally start scoring the content. I love scoring with a focus on content and organization. Because the mechanic part of the writing can affect me negatively (Inst. 7)

First of all, I look into the content. And then I look into our expectations. For example, is there what there should be in an opinion essay? I review again like this and lastly, I look into grammar, spelling, and punctuation. (Inst. 5)

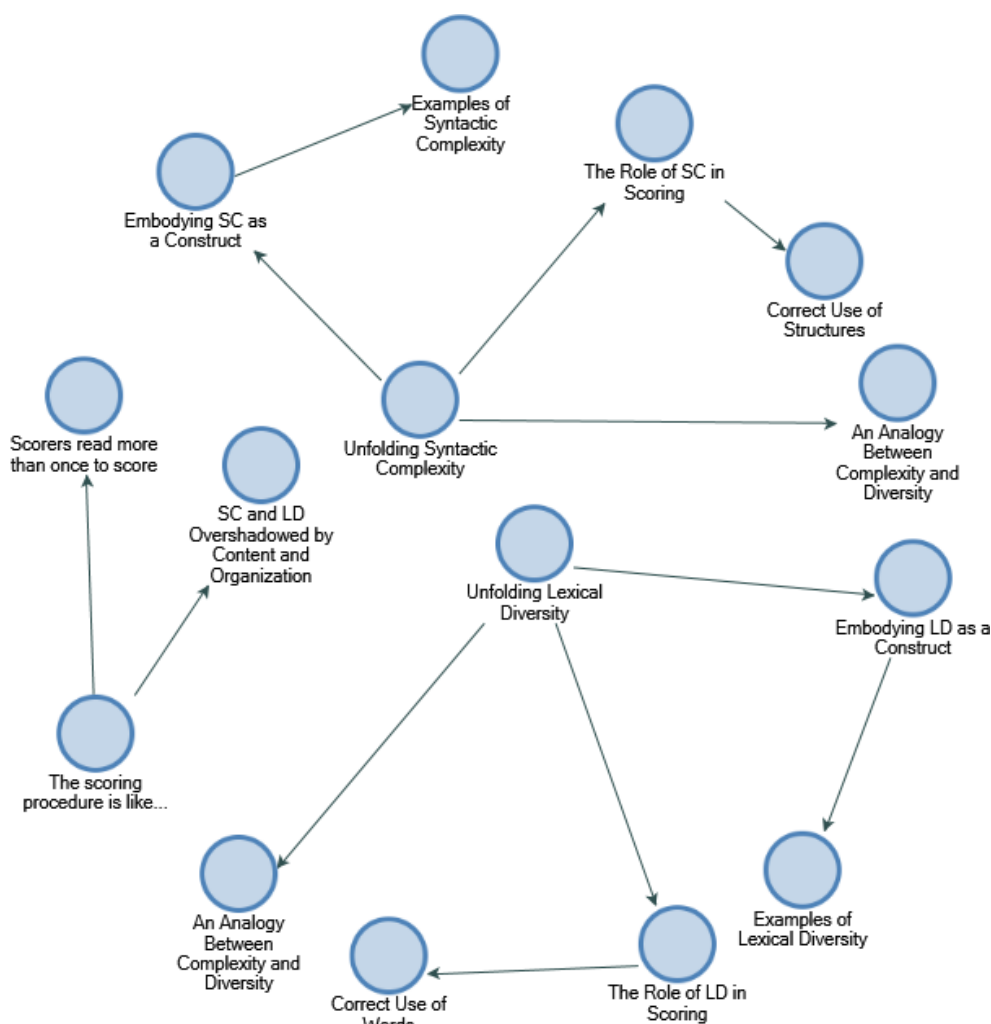


Figure 4. The Thematic Display of ‘Qualitative Results Summary’

Figure 4 displays an overview of the qualitative findings of the present study. The findings include browsing the contents of SC and LD as well as their examples in a given text and their contribution to the overall writing score given by human judges. The results also highlight the perceived significance of content and organization in the process of assessment of student writings in foreign languages. Both quantitative and qualitative findings of the study will be discussed in depth in the following chapter.

Discussion

Issues of Syntactic Complexity with Regards to Scoring

One of the current study's most notable conclusions is that as students' compositions get syntactically more complex, their general language competency increases. This finding is consistent with several other studies that found better writers might produce more complicated works of writing with greater exposure to and practice with the language (Johansson & Geisler, 2011; Mazgutova & Kormos, 2015; Norris & Ortega, 2009; Stockwell & Harrington, 2003; Stockwell, 2005; Vyatkina et al., 2015). It has been proposed in the literature that learning more advanced and specific grammatical constructions might help learners come up with novel terms and complex ideas (Beers & Nagy, 2009). As for the relationship of syntactic complexity and writing quality scores, our study which was carried out in a FL context could only pose weak correlations between syntactic complexity and writing quality. This finding contradicts several previous

studies in the literature. On the other hand, we should remember that comparing the studies on complexity issues needs much attention partly due to a lack of uniformity in the complexity measures and more importantly due to the lack of a clear definition of the complexity construct (Bulte & Housen, 2014).

In line with our study, “nominalizations, attributive adjectives, and prepositional phrases” (Beers & Nagy, 2009, p. 187) were found to be visible in evaluating the syntactic complexity of written pieces. Likewise, we also found -though very weak- a positive correlation between the number of modifiers (as an index of SC) and writing quality.

In a seminal work of research synthesis, Ortega (2003) concluded that in syntactic complexity and writing relationship research which was conducted in ESL settings, participants generated more complex writings compared to those in the studies conducted in EFL instructional settings. One reason for this could be the differences between EFL and ESL instructional settings. As suggested by Ortega (2003), in EFL learning environments learners might not have the experience of learning a language as in ESL settings, which may be hindering the fast development of learners in FL settings. Another reason for the weak correlations between syntactic complexity and writing quality might be the individual beliefs and approaches of human scorers to complexity in writing. As can be understood from our participating scorers' remarks, some demand and seek syntactic complexity from their students while some do not and value simplicity and accuracy more. Moreover, general

impressions of human scorers, even if they follow a standardized criterion, are more prone to detect some organizational and content issues in writing. Human scorers might be overlooking the details and delicate signs of syntactic complexity. On the other hand, automated text processing tools like Coh-Metrix in our case can well detect and calculate syntactic complexity in a computerized certainty. Therefore, it is important to emphasize that the weak and low correlations are between the overall scores given by human raters and the individual indices generated by a computerized text analysis tool. In addition, human scorers might have different expectations from their students' writings in terms of the number and nature of examples given or the genre-specific rules to be followed. Whereas automated text processing tools do not hold any judgments or expectations, but rather only calculate syntactic complexity based on several pre-ordered indices.

Issues of Lexical Diversity with Regards to Scoring

Regarding methods for comprehending and defining lexical diversity, our study proposed, in light of qualitative data, that it consists essentially of employing as many unique and obscure terms as feasible in FL student writing. The key to comprehending lexical diversity was discovered to be the number of words that are present in a student text. A large body of prior research supported this finding. To date, lexical diversity has been referred to by several names, including "lexical variation" (Engber, 1995), "lexical density" (O'Loughlin, 1995), "a combination of lexical variation and lexical sophistication" (Laufer, 2003, p. 24), and "lexical richness" as coined by (Daller et al., 2003). Overall, the number of words is what determines these various characterizations.

Some earlier studies that compared the lexical diversity of written texts were conducted between native and non-native groups of English learners (Harley & King, 1989; Linnarud, 1986). Others were conducted in short-term (Bulte & Housen, 2014) or long-term (Mazgutova & Kormos, 2015) ESL language programs and with learners of English of different L1 backgrounds (Jarvis, 2002; Yu, 2009). In all of these studies, lexical diversity was found to be developing over time and with more exposure to language through instruction. Likewise, our study produced similar findings in that our 4th-year students wrote essays that were lexically more diverse than those of our 1st-year students.

As for the lexical diversity and its relationship with overall FL writing quality scores, our study showed only a weak and positive correlation, though statistically significant, with the Vocab-D measure of lexical diversity and overall quality scores. The other index of lexical diversity (MTLD) could not yield any statistically significant correlation. These findings accorded with several previous studies. In the literature, some studies produced statistically significant and positive correlations between LD and FL writing quality as well as studies that did not. For example, as for predicting overall writing quality, the D-value exerted a weak and non-significant correlation in Bulte and Housen (2014). Likewise, Engber (1995) also put forward a non-significant and low correlation with writing quality scores ($r=.23$), which means that the "percentage of lexical words has little, if any, relationship to quality" (p. 148). Similarly, in a study with English learners of different L1 backgrounds, Jarvis (2002) presented, though moderate, a significant and positive correlation only between Swedish students' lexical diversity

and writing scores. The same study, however, showed statistically non-significant and low correlations between lexical diversity and writing scores of American and Finnish students.

There were, of course, previous studies which contradicted our findings. In other words, several studies found a positive and moderate or strong correlation between lexical diversity and writing quality scores. However, the methodology of each research study was different. For example, Crossley et.al. (2010) broadly characterized lexical diversity as a knowledge "breadth of lexical knowledge, depth of lexical knowledge and the accessibility to core lexical items" (p. 1). These three broad categories were measured through 10 different incidences provided by Coh-Metrix and the findings produced a positive correlation ($r=.66$) between these broad categories of lexical knowledge and writing quality scores assigned to 240 essays.

Issues of Text Length with Regards to Scoring

Text length in our study was the variable that produced the strongest correlation with human scorers. We found a moderately strong and positive correlation which was statistically significant between text length and writing quality scores assigned by human raters. This finding is likely since text length is comparatively easier for human scorers to detect and evaluate. As our participating scorers stated, scorers might read the student essays more than once to evaluate it from several respects and one of these respects could be the text length since it can be caught even with a glimpse of eye. Similarly, Jarvis et al. (2003) found that text length positively correlated with all 21 linguistic features of 160 ESL and 178 EFL student essays which were assigned high scores by human raters.

Text length has been strongly associated with evaluation and writing quality. Text length also showed up in our study as a major variable that affected participants' writing quality scores. However, contrary to our findings, some research found that more proficient learners could pack more complex ideas into smaller sentences, thus producing smaller or shorter texts (Becker, 2010). On the other hand, Bi and Jiang (2020) rather more recently considered text length as an indicator of syntactic complexity and found out that text length together with complex nominals per clause, and clauses per T-unit as the best predictors of human judgments of 410 narratives of Chinese EFL learners. Therefore, it is possible to claim that text length in terms of syntactic complexity has an ambiguous nature as in our study we found a moderate positive correlation between text length and writing quality scores.

Text length, in our study as a confounding variable, also explained the variance in writing quality scores on a significant scale. Both alone and together with SC and LD on the three-faceted model, text length explained 20% and 24% of the variance respectively. Mellor (2011) also yielded similar findings in his study. Mellor (2011) wrote that "lexical diversity together with text length can more accurately predict essay quality than either feature alone in this set of essays" (Mellor, 2011, p. 9). Essay length, however, was found superior over lexical diversity indices in predicting essay quality.

Conclusion and Implications for EFL Writing Pedagogy and Future Research

This study investigated the relationship between SC, LD, TL, and writing quality in the context of FL writing among pre-service teachers. The results indicated that text length was the

strongest predictor of writing quality scores, followed by modest contributions from SC and LD. Fourth-year students significantly outperformed first-year students in all the examined indices, suggesting that linguistic features develop with greater exposure and instruction. However, qualitative data from the interviews revealed that human raters varied in their awareness and prioritization of SC and LD, with some instructors emphasizing content and organization over linguistic features.

The findings suggest several implications for EFL writing pedagogy. First, the emphasis on SC and LD in writing instruction should be balanced with training that enhances students' overall organization and content-generation skills. The weak correlations between SC/LD and writing quality scores imply that while linguistic complexity contributes to writing quality, it is not the sole determinant. Therefore, writing pedagogy should not only focus on enhancing syntactic and lexical features but also on ensuring that students can organize and articulate their ideas effectively.

Moreover, the study highlights the need for standardized writing assessment practices in EFL contexts, where human raters may place different emphases on linguistic versus content-related features. Incorporating automated tools like Coh-Metrix into the assessment process could help reduce subjective variations and provide a more consistent evaluation framework.

Future research should expand the scope of this study by exploring the relationship between SC, LD, and writing quality across different genres and proficiency levels. Longitudinal studies tracking the development of these linguistic features over time would provide further insights into how SC and LD evolve with instruction. Additionally, integrating more comprehensive qualitative measures to examine how instructors' perceptions of writing complexity influence their scoring would enrich the understanding of human judgment in FL writing assessments.

Several limitations must be acknowledged. First, the study's focus on pre-service teachers in a single institutional context limits the generalizability of the findings. Replicating the study across different educational settings and with a more diverse participant pool would provide more robust conclusions. Second, the use of Coh-Metrix, while beneficial for measuring SC and LD, does not capture the full complexity of human judgment in writing assessments. Lastly, the cross-sectional design of the study restricts our ability to track how students' writing skills develop over time, necessitating future longitudinal research.

Author Contributions

All authors took an equal part in all processes of the article. All authors have read and approved the final version of the study.

Ethical Declaration

Anadolu University Ethics Committee granted approval for the present research on 29.04.2019 (Protocol No. 31064).

Conflict of Interest

The authors declare that there is no conflict of interest with any institution or person within the scope of the study.

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Coding Analogy

Analojiyi Kodlamak

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Abstract: This study aimed to examine the pre-service teachers' experiences in preparing and using analogies within a programming course to better understand and evaluate the concepts. The research design of this study was identified as a case study. The 21 participants of the study took an elective introductory programming (Python) course at a state university over 14 weeks. They prepared analogies during the course, and 11 of them attended a focus group interview at the end of the course. The data collection tools used in the study included a questionnaire in which learners indicated the topics they found challenging within the programming course, the analogies they created based on programming education, and interview questions that explored their views at the end of the course. These data were analyzed descriptively. The results indicated that although learners experienced difficulties in understanding algorithms, programming logic, and learning loops, the use of analogies in programming education offered positive contributions.

Keywords: Analogy, programming, programming education, Python, pre-service teachers

Öz: Bu çalışmanın amacı, programlama dersinde kavramları daha iyi anlamak ve değerlendirmek için analoji hazırlama ve kullanma konusunda öğretmen adaylarının deneyimlerini incelemektir. Bu çalışmanın araştırma tasarımı bir durum çalışması olarak belirlenmiştir. Çalışmanın 21 katılımcısı, 14 hafta boyunca bir devlet üniversitesinde seçmeli bir Programlamaya Giriş (Python) dersi almıştır. Ders sırasında analogiler hazırlamışlar ve 11'i dersin sonunda odak grup görüşmesine katılmıştır. Araştırmada kullanılan veri toplama araçları arasında; öğrencilerin programlama dersi içerisinde zorlandıklarını belirttikleri bir anket, programlama öğretimine dayalı olarak oluşturdukları analogiler ve ders sonunda onların görüşlerini ortaya çıkaran görüşme soruları yer almaktadır. Bu veriler betimsel olarak analiz edilmiştir. Sonuçlar, öğrencilerin algoritmaları, programlama mantığını ve öğrenme döngülerini anlamada zorluklar yaşamalarına rağmen, programlama eğitiminde analoji kullanımının olumlu katkılar sağladığını göstermiştir.

Anahtar Kelimeler: Analoji, programlama, programlama öğretimi, Python, öğretmen adayları

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Introduction

21st century skills encompass a wide array of abilities aimed at preparing individuals for social and occupational demands. Key skills include critical thinking, problem-solving, technological literacy, effective communication, collaboration, programming, and computational thinking (Altbach et al., 2009; Ambrosio, 2014; Dede, 2013; Türel et al., 2023). These skills are crucial for keeping pace with contemporary developments and contributing to society. One of the most significant areas focused on this contribution is undoubtedly education. Therefore, educational institutions are increasingly emphasizing the development of these skills to adapt to the rapidly evolving and changing conditions (Longjun, 2023).

Programming skill is frequently emphasized in educational environments (Raman, 2020). It is a fundamental skill for securing success and employment opportunities in the future society (Yang et al., 2018). Programming is also recognized as a valuable 21st century skill that prepares individuals for the digital era and the future job market (Yang et al., 2018). Particularly, the development of problem-solving and computational thinking skills, often highlighted as essential for the 21st century, is associated with programming-related activities. It is even suggested that programming education starting at an early age can enhance these skills (Laato et al., 2020). In Turkey, programming education is increasingly incorporated into the curricula at primary and secondary education levels (Atabaş, 2018; Betchie, 2019; Deniz & Eryılmaz, 2019). This integration of programming skills development into educational settings emphasizes the

importance of preparing learners for the demands of the contemporary world.

Numerous academic studies have been published in the literature with an increasing interest in programming education. Some of these studies have explored the relationship between programming education and different skills. The findings indicate that programming education positively affects students' computational thinking and problem-solving skills, as well as their ability to think algorithmically (Boom, 2022; Hromkovic et al., 2017; Kiss & Arki, 2017; Kong & Wang, 2020; Rim, 2017; Selby, 2015). The problem-solving skills present in learners positively contribute to the ability to learn programming (Yıldız Durak, 2020). On the other hand, there has been a positive correlation between mathematical skills and programming (Pörn et al., 2021).

Some of the research in programming education also focuses on the methods and techniques used to enhance its effectiveness and success. For example, problem-based learning approaches are identified as effective in programming education (Bawamohiddin & Razali, 2017; Chung et al., 2020; Goletti et al., 2021; Peng, 2010). To overcome the challenges in teaching and learning programming languages, a problem-based e-learning model that integrates traditional problem-based learning with e-learning environments has also been proposed (Bashir & Hoque, 2016). The positive impact of online instructional design in programming education has been emphasized, highlighting the importance of peer-assessment and the design of online learning environments (Sabarinath & Quek, 2020). Another method utilized in programming education is blended learning. Studies suggest that blended

learning models in programming courses can improve educational outcomes (Shi & Zheng, 2019). Specifically, programming education conducted using the Flipped Classroom Model has been found to be more efficient than traditional methods, with positive effects on student learning, motivation, and engagement in the courses (Alper & Öztürk, 2019; Herala et al., 2015; Tolano-Gutiérrez et al., 2022). Lastly, it has been emphasized that game-based learning methods are increasingly popular techniques to enhance learning, interest, and comprehension in programming, particularly among younger students (Kanika & Chakraborty, 2020).

One of the techniques employed in programming education involves the use of analogies. Analogies are cognitive mechanisms that facilitate the application of knowledge from one situation to another by identifying similarities and differences (Gentner & Hoyos, 2017). They are extensively used in science and mathematics education to assist students in understanding complex concepts and reasoning (Jonāne, 2015; Heywood, 2002). Analogies, which support engagement in the learning process (Heywood, 2002), can simplify the teaching of challenging scientific concepts, making them more accessible and comprehensible to learners. This approach can be particularly effective in programming education, where abstract concepts and logical structures often parallel patterns in mathematics and science, allowing analogies to bridge the gap between familiar knowledge and new programming skills.

The focus is on the use of analogies, metaphors, and various scenarios in programming education studies in literature. Although analogies and metaphors have different properties and roles, they are similar elements used interchangeably (Yıldırım & Gürsu, 2018). In fact, metaphors can shape thought, especially in relation to complex concepts. Sometimes metaphors are used in a situation where words are insufficient or in a situation where the expression needs to be strengthened. On the other hand, analogy helps to explain an unknown, unfamiliar phenomenon with similarities and differences (Gentner & Hoyos, 2017) and directly compares two fields (Nakiboğlu & Yıldırım, 2019). One of the studies on this subject Gököğlü (2017) investigated computer programming students' perceptions of the concept of algorithms through metaphor analysis, aiming to categorize the emergent metaphors under conceptual categories. Kandin's (2019) thesis examined the use of metaphors and scenarios in early programming education while other studies have also focused on the impact of analogy techniques used in teaching concepts in Mathematics, Information Technologies, and Science courses (Kaya, 2011; Ketenci, 2019; Özcan, 2013). The results of these studies generally highlight the positive effect of metaphors and analogies used in classrooms on learning the subjects. These research contributions are significant in understanding the effects of various methods and techniques used in education and improving educational processes. While metaphors are generally used in programming teaching, which is the subject of our research, the number of studies using analogies is quite limited. However, in teaching some courses such as programming, explaining abstract and difficult concepts by comparing them with familiar concepts can facilitate learning. Therefore, the current study focused specifically on analogies.

Moreover, the present research selected pre-service teachers taking a programming course, and analogies related to programming education were prepared by these students. Similarly, Harper et al., (2023) formed groups within a

programming course, asking students to prepare analogies about key concepts. These analogies were then presented, as it was believed that analogies prepared by learners could contribute more to learning and encourage deeper reflection than those prepared by teachers (Fincher et al., 2020; Harper et al., 2023). Additionally, as stated in the constructivist learning approach, better learning outcomes emerge when learners are active and construct their own learning (Mascolo & Fischer, 2005). In our study, students individually prepared analogies and these were presented in a classroom setting to gather peer and instructor feedback.

In conclusion, our study will provide guidance on the use of analogies in programming, as the participants are pre-service teachers, and will be able to offer a different perspective to overcome the challenges in programming teaching. In addition, the study is notable in terms of focusing on the use of analogies in programming teaching and the preparation of these analogies by pre-service teachers. This process can enable them to prepare analogies to help their own learning and to use them in their future teaching to facilitate the learning of their students. Therefore, this study aims to examine the pre-service teachers' experiences in preparing and using analogies within a programming course to better understand and evaluate the concepts. The research questions of the study are as follows:

1. How have the analogies prepared in the programming course affected the pre-service teachers' understandability of the subjects?
2. What are the experiences of pre-service teachers in preparing and using analogies in the context of programming education?
3. What are the views of pre-service teachers on preparing analogies in other subjects?

Method

Research Design

This study is qualitative research. A case study was used in the study. The case study included an in-depth examination of the research question (Yıldırım & Şimşek, 2013). Prior to the analogy generation process, a pre-questionnaire and post-questionnaire focusing on programming difficulties were administered. Following this, the experiences of pre-service teachers regarding the analogy generation process and views about preparing analogies were deeply examined. Finally, a focus group interview was conducted with students to examine their views on the use of analogy in programming education in depth.

Participants

The participants of the study were 21 pre-service teachers who took an elective course on introductory programming (Python) at a state university for 14 weeks. These participants were students in the 2nd, 3rd, and 4th years of the Mathematics Department at the Faculty of Education. These participants were students in the 2nd, 3rd, and 4th years of the Mathematics Department at the Faculty of Education. They enrolled in the introductory programming (Python) course. There were 21 people, 13 girls and eight boys. Since they were selected from among the students taking the programming course, a purposive sampling method was used. Given the subject matter focused on teaching programming, this course's students were included in the study. In our study, before and after the programming course, volunteers responded to a questionnaire titled "Topics that participant found most

challenging" (Appendix-1), with 18 participating in the pre-questionnaire and 16 in the post-questionnaire. Following the course, a focus group discussion was conducted with 11 participants who were selected from among the participants voluntarily.

Data Collection Instruments

The data collection instruments used in the study include a questionnaire where participants indicated the topics, they struggled with during the programming course, analogies prepared by them based on programming education, and the interview questions that examined learners' views on learning and their views on analogies at the end of the course.

The questionnaire asked learners to mark the topics covered in the course that they found challenging. It was created and administered using Google Forms. This questionnaire was reapplied after the analogies were prepared and reviewed in class. This questionnaire was prepared by the course instructor. The questionnaire included topics covered in the course. Students were asked to choose one of the topics in this questionnaire that they had difficulty with.

The interview questions (Appendix-2) were designed to explore learners' attitudes and learning experiences within the scope of the research questions. These questions were prepared by the researchers of the study in light of the research questions. These were then reviewed by field experts and finalized. These questions were posed to students during a focus group interview. This format was chosen to facilitate rich data collection, allowing participants to remind each other as necessary. In order to ensure consistency in the research, expert opinions were sought during the preparation of data collection tools and data analysis stages. Both quantitative and qualitative data were presented to support the research findings and for credibility. In addition, while presenting qualitative data for confirmability, sample answers to the questions were presented in the findings as direct quotes.

Analogy Preparation Process

The analogies were created by the participants on topics mentioned in the course selected during the course and were reviewed in class with peer and instructor evaluations. The analogies were updated by them in the following week. While creating the analogies, participants followed the stages below (Harper et al., 2023):

1. Identifying the target concept and its essential characteristics: This involves understanding the new or complex concept that the analogy aims to explain. Detailed information and example applications are provided to students during the class on the topics they would use to create analogies.
2. Brainstorming on potential source domains that share similarities with the target concept: This encourages divergent thinking and helps students explore various familiar concepts that can be used in the analogy. After selecting the topics for their analogies, students are shown various examples of analogies and given the opportunity to develop ideas.
3. Selecting the most suitable source domain: This step emphasizes the need to carefully choose the source domain that best fits the target concept. Students are asked to find an example analogy related to the topic they chose.
4. Mapping the similarities between the source and target domains: This step focuses on creating a clear and

accurate correlation between the two domains. Students are asked to list the similarities between the topic they chose and the analogy.

5. Identifying and addressing differences or limitations in the analogy: This step fosters critical thinking by helping students recognize and address the limitations of the analogy. In this part, students are asked to list the differences between the topic they chose and the analogy. The analogies in this study aim at aiding subsequent learners and facilitating the acquisition of programming skills, are presented in the appendix (see Appendix-3).

The Role of Researchers

One of the researchers in the study was the instructor of the course. This researcher asked the learners to fill out a questionnaire regarding the topics they struggled with during the course. In this questionnaire, students individually marked the topics they found difficult to learn. Subsequently, learners were assigned to prepare analogies related to the topics covered. Each student selected a topic within the course and created an analogy related to it. These analogies were presented in class a week later and subjected to peer and instructor evaluations. After the evaluations, the analogies were finalized in the following week. At the end of the course, the researcher reapplied the questionnaire and asked the learners to reflect on whether the analogies helped them understand the topics they struggled with.

The researchers of this study reviewed and edited the analogies submitted by the students. They also developed interview questions as part of the study. In the final week of the course, they conducted a focus group interview with 11 voluntarily participating students, recorded the interview with the students' permission, and later analyzed the responses to the interview questions and other data.

Data Analysis

The data obtained from the questionnaire were descriptively analyzed, and frequency values were derived. The results were presented in tables and charts. The data from the focus group interview were subjected to descriptive content analyses. In the analysis, the participants' perspectives on the topics they found challenging in programming education were coded according to the subjects and objectives of the course. Additionally, the responses regarding the contributions and suggestions of the process were subjected to content analysis. In content analysis, data collected from participants are analyzed, similar data are grouped under a common theme, and interpreted (Yıldırım & Şimşek, 2013). During the analysis, the qualitative findings were coded by the researchers and these codes were subjected to expert opinion. In order to ensure the transferability of the research findings, the participants were described in detail and the codes obtained were presented with their coding numbers. In addition, the participant names were kept confidential and coded as Participants 1-11 in the findings section, and direct quotes from some participants were included in the findings section.

Findings

The study aims to examine the pre-service teachers' experiences in preparing and using analogies within a programming course to better understand and evaluate the concepts. The findings of these studies are presented below in light of the research questions.

Table 1. Topics that participant found most challenging

Topics	Pre-questionnaire		Post-questionnaire	
	f	%	f	%
Loop Structures (for, while)	13	68,4	13	76,5
Nested Control Structures (if, else, elif)	12	63,2	4	23,5
Control Structures (if, else)	11	57,9	3	17,6
String Operations (len, etc.)	10	52,6	4	23,5
Data Type Conversions	5	26,3	3	17,6
Logical Operators (and, or, not)	5	26,3	2	11,8
Array Definition and Usage (list definition)	4	21,1	6	35,3
Comparison Operators (<, >)	3	15,8	0	0,0
Problem Solving Process	2	10,5	1	5,9
Algorithms	2	10,5	0	0,0
Variables and Data Types	2	10,5	1	5,9
Assignment Operators (=, +, -)	2	10,5	1	5,9
Computer and Programming & What is Programming?	1	5,3	0	0,0
Total (Participants)	18		16	

Participants' Understanding of the Subjects

In this section, the results of the "Topics that participant found most challenging" questionnaire, administered as pre- and post-questionnaire, before and after the analogy preparation process, were evaluated and presented in Table 1.

It was evident from the pre-questionnaire responses in the programming education session that participants predominantly struggled with loop structures (f=13), nested control structures (f=12), control structures (f=11), and string operations (f=10) in Table 1. Moderate difficulties were observed in other topics.

Following the analogy creation process, the post-questionnaire responses revealed a significant decrease in difficulties previously identified in the pre-questionnaire, particularly in nested control structures (f=4), control structures (f=3), and string operations (f=4). Additionally, there were notable decreases in other areas such as data type conversions (f=3), logical operators (f=2), comparison operators (f=0), problem-solving processes (f=1), algorithms (f=0), variables and data types (f=1), assignment operators (f=1), and an introduction to computers and programming (f=0). According to Table 1, loop structures (for, while) remained a challenging topic for the students, with no observed improvement post-analogy process (f=13).

Conversely, an increase in difficulty was noted in the area of array definition and usage (list definition) in the post-questionnaire (f=6).

Participants' Experiences on Analogy Preparation and Usage Process

The process of preparing analogies was examined after which, based on the guiding research questions, interview questions were developed. These questions were then administered through a focus group discussion. The outcomes were analyzed using content analysis, and the results were presented in Table 2. organized by categories, codes, frequencies, and sample quotes.

It was observed that, in accordance with the feedback from the participants, the most challenging topics in programming education are syntax rules and loops in Table 2. Participants expressed that they struggle with writing code due to spelling errors (such as the need to close a parenthesis, not using Turkish characters when defining variables, etc.), thus encountering difficulties during the coding process. Moreover, both types of loops, whether with an undefined repetition structure or a defined one, were found to be the subjects participants struggled with the most in terms of comprehension. This finding was further supported by Table 1.

Table 2. Perspectives on the most challenging topics in programming education

Category	Code	f	Sample Quotes
Loops	Code 1: While Loop	6	Code1 "While loops..." P3
	Code 2: For Loop	6	Code 2 "For loops..." P2
Spelling Rules	Code 3: Syntax Rules	3	Code 3 "...Spelling rules and parentheses are a bit of a hassle." P4

Table 3. Topics of analogy prepared by participants

Code (Node)	f	Sample Quotes
Code 1: Comparison Operators	3	"Mine was one of the comparison operators." P10
Code 2: Loops	2	"Mine was the While loop..." P2
Code 3: Arrays (Lists)	1	"I had done an array, it was a list." P9
Code 4: Nested Controls	1	"It was nested controls..." P8
Code 5: Logical Operators	1	"... logical operators." P1
Code 6: String Operations	1	"Mine was also string operations." P6
Code 7: Problem-Solving Process	1	"Mine was the problem-solving process." P5
Code 8: Programming Logic	1	"Computer programming and what programming is about, that was the topic." P11

Table 4. The views on difficulties encountered when creating analogies

Category	Code	f	Sample Quotes
Thinking Process	Code 1: Defining and Selecting Characteristics	2	"... I struggled a bit there, wondering which features to add..." P7
	Code 2: Setting Boundaries	2	"... when you determine a very large area, you can't just make it up, you have to find boundaries. It's a bit difficult to set those boundaries." P3
	Code 3: Identifying Differences	1	"... at first, we focus on their similarities and start writing. Then, when it comes to their differences, well, now you have to think a little about what those differences are." P10

Table 5. The views of analogy creation process

Category	Code	f	Sample Quotes
Peer Support	Code 1: Idea Exchange	3	"When preparing with P5, we looked at each other's work. We had a for loop in P5 too. We looked together." (P 4)
	Code 2: Comparison	2	"So, I did mine, then they did theirs. Finally, we compared each other's work. We supported each other to make it look a bit more professional, for example." (P3)
	Code 3: Peer Review	1	"I write and send it. I wonder if it's okay? P7 sends it back, asking where I can fix it." (P6)

It was noted that, according to the feedback from the participants, the topics most frequently analogized were comparison operators and loops in Table 3. Additionally, analogies were formed in topics such as arrays, nested controls, logical operators, string operations, problem-solving processes, and programming logic. This finding suggested that the analogies created by participants in these topics facilitated the understanding when interpreted alongside the pre-questionnaire and post-questionnaire data from Table 1. Interestingly, the lack of sufficient analogies in topics such as loops and array declaration might indicate that difficulties persist in these areas.

Participants primarily struggled with the process of thinking about how to create analogies. They mentioned experiencing difficulty in translating abstract concepts in programming education into analogies. In the analogies they created, participants found it most challenging to identify the characteristics, set boundaries or in other words, determine similarities and differences in programming concepts when making comparisons.

Table 5 presents the participants' views on the process of preparing analogies. Although assignments were given

individually, participants were found to collaborate during the process of selecting a topic from programming subjects and creating analogies related to that topic. These collaborating individuals expressed engaging in idea exchange, comparing, and verifying the analogies they prepared during the analogy creation process. This finding, while not imposing any limitations on our research, actually encouraged collaboration, demonstrating that mutual exchanges of ideas not only led to the formation of better examples but also contributed more to the participants' learning process through mutual idea exchanges.

According to Table 6, participants not only expressed a positive view (f=5) regarding the contribution of the analogy preparation process to their understanding of programming topics but also noted its beneficial aspects in making programming topics more meaningful (f=2), facilitating the understanding of both the chosen topic in the analogy and the programming subjects (f=1), and reinforcing the subjects (f=1). Additionally, participants expressed the opinion that the experience gained from the process was enjoyable (f=1).

Table 6. The views in contributions of analogy creation process

Category	Code	f	Sample Quotes
Learning	Code 1:Contribution	5	"... I think it contributes." (P7)
	Code 2: Making Information Meaningful	2	"At first, these loops, operators, and so on seem meaningless. Then, when you relate them, they become a bit more meaningful." (P6)
	Code 3: Mutual Understandability	1	"At first, to think of an analogy, you need to understand its definitions first. When creating an analogy, we also understand its definition at the same time, it happens simultaneously. So, both make it easier for each other to understand." (P3)
	Code 4: Reinforcement	1	"... helped with reinforcement." (P8)
Experience	Code 5: Experience	1	"Moreover, it is a good experience, in my opinion." (P6)

Table 7. The views about usage of analogies in different courses

Category		Code	f	Sample Quotes
Positive	Mathematics	Code 1: Analytical Geometry	2	"... in analytical geometry, most of the class, even the teacher sometimes gets stuck. If they were connected to an analogy, and then discussed in a narrative process, there would likely be easier learning, especially with newly added topics." (P3)
		Code 2: Analysis	1	"... can be used in subjects like analysis, which are a bit more concrete, manual, and suitable for calculation." (P4)
		Code 3: Algebra	1	"... example topics can be very abstract in algebra for children. What are these x's and y's? How am I going to find this? It's like going from basic arithmetic to algebra. Analogies can be very useful in these topics..." (P7)
		Code 4: Probability	1	"Probability also comes to mind. In probability, for example, an event occurs, then when another example is given, it presents another event. ... probabilities can be built upon a single analogy." (P3)
Partially	Computer Science	Code 5: Algorithm and Programming	1	"... used in classes involving programming or algorithms. Especially Python, Java..." (P4)
		Code 6: Algebra	1	"... can be used to some extent in algebra, I think..." (P3)
Negative		Code 7: Abstract contents and subjects	2	"So, the very abstract ones are very difficult. Because they inherently have very abstract expressions." (P4)

The Views of Participants on Preparing Analogies in Other Subjects

According to Table 7, participants expressed their views regarding the use of analogies, particularly in mathematics classes. It was noteworthy that these pre-service teachers, who are students of mathematics education, emphasized the use of analogies, especially in teaching abstract concepts in mathematics ($f=5$). There was also emphasis on the importance of using analogies in computer science classes ($f=1$). Additionally, participants highlighted the challenge of structuring highly abstract subjects ($f=2$) using analogies as a negative comment.

Discussion

The remarkable responses given to the interview questions prepared under the research questions were discussed in light of previous studies in this section.

Students mentioned that they had difficulty in creating analogies due to the abstract structure of programming. This first major finding has also been emphasized in previous studies and the difficulty in teaching has been expressed as the difficulty of teaching programming (Gomes & Mendes, 2007). The topic of algorithms, the problem-solving process, and establishing programming logic were also the difficulties encountered in programming, mentioned by the participants (Günbaşı & İlgin, 2023; Özmen & Altun, 2014; Saygıner & Tüzün, 2017). Other challenging topics in programming were syntax rules, loops, and decision structures. Participants expressed struggling with spelling errors (such as the need to close parentheses, not using Turkish characters when defining variables, etc.) while coding, leading to difficulties in the coding process. The finding was interpreted as consistent with previous research by Baltalı (2016) and Jancheski (2017) indicating that students faced difficulties in syntax in programming education. Furthermore, participants' struggles with topics such as loops, decision structures, and operators align with other challenges encountered in text-based programming languages (Kadin, 2019).

Another finding was related to the participants' processes of creating analogies. The process of creating analogies contributed to making topics more meaningful and reinforced

the subjects. This finding aligned with the findings of studies conducted by Dinçer (2005), Erümit et al. (2019), Harper et al. (2024) and Kaya & Durmuş (2011) in the field of Computer Science. Similarly, there were studies suggesting that creating analogies in different subjects supports learning (Bayazit, 2011; Bozkurt, 2019; Şahin et al., 2001; Yılmaz et al., 2002).

Participants encountered difficulty in determining the characteristics and differences when selecting source and target concepts during the analogy preparation process. This finding was supported by studies suggesting that students may face challenges in establishing connections between source and target concepts during the analogy preparation process (Harper et al., 2023; Uçar, 2021). According to Kobal et al. (2014), it was also believed that this difficulty experienced during the process may stem from students' insufficient prior knowledge about the source concept. Based on the research findings, collaborative work with peers during the analogy preparation process, involving mutual idea exchanges and comparisons, proved effective in overcoming this difficulty at various stages of the process. In addition to peer support during the analogy preparation process, instructor was contributed to completing participants' prior knowledge about the source and target concepts in the analogy and reinforcing the understanding of unfamiliar topics.

Finally, the participants had positive views mentioned in Table 7 regarding the use of analogies in their field (mathematics education) for teaching abstract concepts. This finding was supported by research on the use of analogies in mathematics education (Bayazit, 2011; Özcan, 2013; Saygılı, 2008). Analogies were commonly used in science and mathematics education to assist learners in understanding complex concepts, reasoning, and forming correct interpretations (Jonäne, 2015; Heywood, 2002). Additionally, analogies facilitated the learning of abstract concepts and helped overcome misconceptions (Zorluoğlu & Sözbilir, 2016).

Conclusion and Suggestions

The research findings demonstrated that the use of analogies in programming courses yielded positive contributions to programming education. It was observed that the process of preparing analogies by pre-service teachers contributed to

making programming topics more understandable for learning. The utilization of analogies in programming courses emerged as a facilitator for students' comprehension of abstract concepts and supported the learning process. These findings underscore the significance of employing analogies in programming education and indicate their potential to contribute to students' learning more effectively.

In the research, participants were involved in creating analogies. Although they encountered certain difficulties during the process of analogy formation, it enhanced their ability to establish connections between source and target concepts. Collaborative work among them and teacher support during the analogy preparation process played a significant role in helping them overcome challenging topics. Additionally, the fact that the target audience of this study was pre-service teachers may contribute to both assisting their own learning through analogy preparation and facilitating their future professional practices.

Based on the research findings, specialized training programs can be provided to teacher candidates to enhance their skills in preparing analogies for programming courses. These programs could assist them in understanding the analogy formation process and effectively implementing it. Additionally, receiving regular feedback is crucial for evaluating the impact of using analogies in programming courses. To achieve this, new research could be planned by employing various analogy techniques in different groups to assess their effectiveness.

Author Contributions

All authors took an equal part in all processes of the article. All authors have read and approved the final version of the study.

Ethical Declaration

This study was conducted with the approval of the Erzincan Binali Yıldırım University Applied Research Ethics Center, Human Research Ethics Committee (Protocol No. 06/17), obtained at the meeting held on 29.03.2024.

Conflict of Interest

The authors declare that there is no conflict of interest with any institution or individual related to this study.

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Appendix-1

Topics that participants found most challenging

Loop Structures (for, while)
Nested Control Structures (if, else, elif)
Control Structures (if, else)
String Operations (len, etc.)
Data Type Conversions
Logical Operators (and, or, not)
Array Definition and Usage (list definition)
Comparison Operators (<, >)
Problem Solving Process
Algorithms
Variables and Data Types
Assignment Operators (=, +, -)
Computer and Programming & What is Programming?

Appendix-2

Interview Questions

- What are the most challenging topics in programming education?
- Which topic did you create an analogy on?
- Can you tell us about your experience creating an analogy?
- What were the difficulties you encountered during the process?
- Were there any parts you liked during the process?
- Do you think the analogy creation process contributed to your learning?
- What do you think about its use in other courses?

Appendix-3

Analoji-1: Canlı yaşamı ve Su ilişkisi

1-) Koşul İfadeleri (if-else):

Analoji: Koşul ifadeleri, gezegenlerdeki canlı yaşamıyla benzetilebilir. Örnek; "Eğer gezegende su varsa, canlı yaşamı vardır. Aksi halde canlı yaşamı yoktur." şeklinde bir düşünce, koşul ifadeleriyle benzerlik taşır.

2-) Koşul İfadeleri (if):

Analoji: "Gezegende su varsa" ifadesi, Gezegende canlı yaşamında bir koşul ifadesini temsil eder. Bu durumda, belirli bir şart gerçekleşirse (Gezegende su varsa) belirli bir duruma varılır (canlı yaşamı vardır).

3-) Else (aksi halde):

Analoji: "Aksi halde, canlı yaşamı yoktur" ifadesi, koşul ifadesinde sağlanan şartın karşılanmaması durumunda yapılacak çıkarımı belirtir. Yani, eğer su yoksa canlı yaşamı yoktur.

Bu analogi, Canlı yaşamı ve su ilişkisi üzerinden koşul ifadelerini açıklar. Her iki durumda da belirli şartlar altında farklı durumlar gerçekleştirilmesi gerekliliği, koşul ifadelerinin temel mantığıyla benzerlik gösterir.

Benzerlikler

- Canlı yaşamı ve su ilişkisiyle kontrol yapılarının benzer olmasının sebebi işlem aşamasında gerçekleştirilen eylemlerin bir koşula bağlı olacak şekilde yapılmasıdır.
- Sıralama yönünden benzerdirler. Mesela canlı yaşamını su ile ilişkilendirdiğimiz zaman suyun olmadığı bir durumda (bu bir koşul ifadesidir) belirli bir sonuca varılabilir. Aynı şey kontrol yapıları içinde

geçerlidir. Çözüm belli bir koşulu baz alarak yapıldığı için bu kısımda aşamalar benzerlik gösterir.

Farklılıklar

- Doğal yaşamda, suyun akışı ve etkileşimi doğal olarak gelişirken, programlama kontrol yapıları insanlar tarafından bilinçli bir şekilde tasarlanır ve uygulanır.
- Doğal yaşamdaki kontrol yapıları genellikle doğal seçim ve evrimsel süreçler tarafından şekillenirken, programlama kontrol yapıları insanlar tarafından bilinçli olarak uygulanır.

Analoji-2: Sayıların karşılaştırılması

Karşılaştırma operatörlerini, iki sayı arasındaki ilişkiyi karşılaştırmak için kullanılan birer terazi olarak düşünebiliriz. Terazinin bir kefesine bir sayıyı, diğer kefesine ise diğer sayıyı koyarsak, terazinin hangi kefenin ağır bastığını görebiliriz. Bu bize iki sayının birbirine göre büyüklük, küçüklük veya eşitlik ilişkisini verir. Örneğin, 5 ve 3 sayılarını karşılaştırmak için 5'i bir kefeye, 3'ü ise diğer kefeye koyarsak, terazinin 5'in bulunduğu kefeye doğru ağır bastığını görebiliriz. Bu bize 5'in 3'ten büyük olduğunu gösterir.

Benzerlikler

- Her ikisi de iki değeri karşılaştırır.
- Her ikisinin de sonucu bir değerdir.
- Her ikisinin de sonucu, karşılaştırılan değerler arasındaki ilişkiyi gösterir.

Farklılıklar

- Karşılaştırma operatörleri, sayılar, karakterler, dizeler, listeler ve diğer veri türleri gibi farklı değerleri karşılaştırabilir. Terazi ise sadece ağırlıklar karşılaştırabilir.
- Karşılaştırma operatörlerinin sonuçları, sayısal değerler olabilir. Terazinin sonuçları ise ağırlık değerleridir.

Analoji 3- Buluşma Planı

Döngüleri, öğrencilerin her haftasonunda bir kafede buluşmalarına benzetebiliriz. Her hafta belirli bir koşul, yani hafta sonu, sağlandığında buluşma tekrarlanır. Ancak, bir hafta sonu herkesin uygun olmadığı durumda veya başka bir etkinlik planlandığında, bu döngü dışındaki bir durumu temsil eder. Yani, belirli bir düzeni olan ancak esneklik sağlayan bir yapı söz konusudur.

Benzerlikler

- Her hafta belirli bir düzene göre tekrarlanır.
- Belirli bir koşul, hafta sonu, sağlandığında tekrarlanır.
- Belirli bir işlemi tekrarlamak için kullanılır.
- Döngü içindeki işlemler belirli bir düzene göre yapılır.

Farklılıklar

- For döngüleri, belirli bir iterable (liste, demet vb.) üzerinde dolaşır.
- Sona erme koşulu, otomatik olarak iterable'in sona ermesidir. Buluşma düzeni, hafta sonu veya uygunluk durumu gibi kullanıcı tarafından belirlenen bir şarta bağlıdır.

- For Döngüsü; sayaç veya iterable'ın içindeki elemanları kontrol eder. Diğer taraftan kişiler belirlenen bir şartın sağlanıp sağlanmadığını kontrol eder.
- For Döngüsü; sabit bir düzeni tekrarlar, değişkenlik sağlamaz. Buluşma planı, belirli bir düzen içinde olmasına rağmen, esneklik ve adaptasyon sağlar.

Mobile Phone Addiction, Emotion Regulation, Mindfulness, and Self-Control Among Adolescents: A Serial Mediation Analysis

Ergenlerde Cep Telefonu Bağımlılığı, Duygu Düzenleme, Farkındalık ve Öz Denetim: Seri Aracılık Analizi

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Abstract: This study aimed to examine the mediation effect of mindfulness and self-control in the relationship between emotion regulation and mobile phone addiction in Turkish adolescents. Additionally, the psychometric properties of the Five Facet Mindfulness Questionnaire-Short Form and the Self-Control Scale were investigated on adolescents in this study. Our findings indicated that mobile phone addiction is positively correlated with dysfunctional emotion regulation and negatively associated with self-control and mindfulness. Furthermore, dysfunctional emotion regulation was negatively associated with self-control, and mindfulness. Self-control was positively correlated with mindfulness. Dysfunctional emotion regulation, self-control and mindfulness had direct significant effects on mobile phone addiction. Mindfulness and self-control were found to mediate the association between dysfunctional emotion regulation and mobile phone addiction. Findings from this investigation confirm that the degree of mobile phone addiction is heightened by dysfunctional emotion regulation; however, these associations can be mitigated by practicing mindfulness and self-control. In other words, dysfunctional emotion regulation increases mobile phone addiction through low self-control and mindfulness; however, mindfulness and self-control practices can reduce these effects.

Keywords: Mobile phone addiction, emotion regulation, mindfulness, self-control, adolescents, serial mediation analysis

Öz: Bu çalışmada, Türkiye'deki ergenlerde duygu düzenleme ile cep telefonu bağımlılığı arasındaki ilişki farkındalık ve öz denetimin aracılığının incelenmesi amaçlanmıştır. Buna ek olarak, bu çalışmada Beş Faktörlü Bilgece Farkındalık Ölçeği-Kısa Formu ve Öz Denetim Ölçeği'nin psikometrik özellikleri ergenler üzerinde incelenmiştir. Araştırma bulguları cep telefonu bağımlılığının işlevsel olmayan duygu düzenleme ile pozitif, öz denetim ve farkındalık ile ise negatif ilişkili olduğunu göstermiştir. Buna ek olarak, işlevsel olmayan duygu düzenlemenin öz denetim ve farkındalıkla negatif yönde ilişkili olduğu görülmüştür; öz denetimin farkındalıkla pozitif yönde ilişkili olduğu görülmüştür. İşlevsel olmayan duygu düzenleme, öz denetim ve farkındalığın cep telefonu bağımlılığı üzerinde doğrudan anlamlı etkileri olduğu tespit edilmiştir. Ayrıca, farkındalık ve öz denetimin işlevsel olmayan duygu düzenleme ile cep telefonu bağımlılığı arasındaki ilişkiye aracılık ettiği bulunmuştur. Bu çalışmanın sonuçları, cep telefonu bağımlılığının işlevsel olmayan duygu düzenleme nedeniyle arttığını ancak bu ilişkinin farkındalık ve öz denetimle azaltılabileceğini doğrulamaktadır. Diğer bir ifade ile işlevsel olmayan duygu düzenleme, düşük öz denetim ve farkındalık yoluyla cep telefonu bağımlılığını artırmakta ancak farkındalık ve öz denetim uygulamaları bu etkileri azaltabilmektedir.

Anahtar Kelimeler: Cep telefonu bağımlılığı, duygu düzenleme, farkındalık, öz denetim, ergenler, seri aracılık analizi

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Introduction

People's daily lives worldwide have been significantly impacted by the internet, which uses smartphones or mobile phones as its primary carrier due to the rapid growth of information technology (Cheng et al., 2020). Globally, the use of mobile phones has increased (Zhang et al., 2023), and they have become a part of people's daily lives because of their varied functions (Liu et al., 2020). Accordingly, all age groups started using mobile phones. One of these groups is adolescents, who use mobile phones most frequently (Huang et al., 2022; Lee & Busiol, 2016). According to market research, 83% of youths in the UK between the ages of 12 and 15 own a smartphone, and 59% own a tablet, indicating that the likelihood of owning a smartphone rises with age (OFCOM, 2019). Adolescents are increasingly dependent on their mobile phones due to their widespread use for communication, entertainment, and information-seeking purposes (Sharma & Singh, 2023).

An increasing number of adolescents are unable to live without their mobile phones (Mi et al., 2023; Volkmer & Lerner, 2019), and adolescents are more susceptible to problematic mobile phone use than adults are (Kuss et al., 2014). According to the Turkish Statistical Institute (2021)

report, when the mobile phone usage rate was examined by age group, the rate was 75.0% for youths between the ages of 11 and 15. Due to its prevalence, concerns associated with adolescent mobile phone use's possible effects on behavior and psychological health have increased (Sharma & Singh, 2023). One of these concerns is mobile phone addiction. Several negative effects on both physical and mental health are related to mobile phone addiction. Overuse of mobile devices can lead to headaches, exhaustion, insomnia, memory loss, and hallucinations (Sandström et al., 2001). An increasing amount of research has demonstrated that dependence on mobile phones results in poor quality sleep, interpersonal issues, poor academic performance, and increased symptoms of anxiety and depression (e.g., Cheng & Meng, 2021; Elhai et al., 2016; Lepp et al., 2014). Considering the prevalence and mobile phone addiction's detrimental effects on adolescents, investigating the mechanisms underlying adolescent mobile phone addiction is crucial. In this regard, the relationships between dysfunctional emotion regulation, self-control, mindfulness and mobile phone addiction were examined in the current research.

Mobile Phone Addiction and Emotion Regulation

Mobile phone addiction is commonly defined as an impulsive and uncontrollable desire to use a mobile phone (Liu et al., 2018). The symptoms and risk elements for mobile phone addiction are similar to those of other types of addiction. Similar to substance addictions to alcohol and drugs, mobile phone addiction presents with symptoms such as cravings, emotional changes, salience, withdrawal symptoms, and a sense of being out of control (Lee et al., 2014; Lin et al., 2016). Addiction risk factors are thought to include difficulties regulating emotions (Aldao et al., 2010; Hayes et al., 2004; Macklem, 2008; Tang et al., 2016). For instance, maladaptive coping mechanisms with negative emotions are proposed to be a major contributing factor in the development of addictive behavior in the integrated process model of internet addiction (Müller & Wölfling, 2017). In this context, those who overuse internet use video games and virtual worlds as a way to escape unpleasant emotions (Li et al., 2021; Lindenberg et al., 2020). Similarly, emotional disorders and problematic technology use are closely linked, according to the CIUT (Compensatory Internet Use Theory, Kardefelt-Winther, 2014) and the I-PACE (Interaction of Person-Affect-Cognition-Execution) theoretical model (Brand et al., 2016). According to these theories, people who are experiencing psychosocial or emotional problems in the real world sometimes turn to mobile phones or virtual networks to prevent unpleasant emotions (Fu et al., 2020; Li et al., 2021). As can be seen, dysfunctional emotions, which constitute a significant issue across all forms of addiction, including mobile phone addiction, and the dysfunctional emotion regulation skills employed to cope with these emotions are also included in more comprehensive theories of problematic technology use.

According to Phillips and Power (2007), there are four different types of emotion regulation techniques: functional or dysfunctional, utilizing a lot of internal or personal resources, and using a lot of external or environmental resources. The mechanisms by which strategies function (e.g., avoiding or blocking emotion versus engaging with it) and the long-term effects they have on emotional intensity (e.g., increases versus decreases in negative emotion) can be used to categorize strategies as dysfunctional or functional (Fitzpatrick et al., 2019). Internal- and external-dysfunctional emotion regulation pertains to ineffective methods people employ to cope with their emotions. Internal-dysfunctional emotion regulation encompasses cognitive and emotional processes that are directed inward, such as excessive rumination, self-criticism, or the suppression of emotions. Even though these techniques aim to cope with emotional turmoil, they frequently exacerbate negative feelings and result in lasting issues like addiction, depression and anxiety (Compare et al., 2014; Duy & Yıldız, 2014; Gadassi Polack et al., 2021; Phillips & Power, 2007). In contrast, external-dysfunctional emotion regulation involves behaviors directed outwardly in response to emotional distress, like aggression, blaming others, or seeking excessive reassurance. These outward behaviors may momentarily relieve emotional discomfort but can strain interpersonal relationships and foster social conflict. For example, lashing out or blaming others may lead to negative feedback from others, increasing feelings of isolation or rejection (Duy & Yıldız, 2014; Phillips & Power, 2007).

Mobile phone addiction is closely linked to internal-dysfunctional emotion regulation. For instance, in a study conducted by Yıldız (2017) on Turkish adolescents, it was found that internal-dysfunctional emotion regulation predicted mobile phone addiction in a significantly positive way. People

who find it difficult to manage their internal emotions, employing methods like rumination, emotional suppression, and self-criticism, frequently use cell phones to divert their attention from negative feelings (Li et al., 2021; Lindenberg et al., 2020). This dependency establishes a loop where avoidance strengthens habitual phone usage, which undermines internal coping abilities and results in adverse mental health effects, including heightened anxiety, depression, and social isolation.

The relationship between external-dysfunctional emotion regulation and mobile phone addiction has not been sufficiently investigated. A study was conducted by Yıldız (2017). In this study, it was determined that external-dysfunctional emotion regulation positively predicted mobile phone addiction. In addition, the relationships between external-dysfunctional emotion dysregulation and the other variables of this study, mindfulness and self-control, have not been sufficiently examined. Finally, Phillips and Power (2007) stated that the use of internal resources increases with age, but the use of internal and external resources continues in a functional and dysfunctional way. Therefore, they emphasized that young people's internal and external strategies should be evaluated. For these reasons, we used external and internal dysfunctional emotion regulation as predictive variables in this study, and based on previous research, the following hypothesis is put forth:

Hypothesis 1. Internal-dysfunctional emotion regulation is positively associated with mobile phone addiction.

Hypothesis 2. External-dysfunctional emotion regulation is positively associated with mobile phone addiction.

The Mediating Role of Mindfulness

Brown et al. (2007) characterize mindfulness as “a receptive attention and awareness toward current events and experiences.” To practice mindfulness, people must monitor their feelings and ideas in connection to these ongoing events from a distance (Reina & Kudesia, 2020). Through awareness and attention, mindfulness brings people closer to the present moment without passing judgment or making any evaluations (Schultz & Ryan, 2015). Awareness is essential for good self-regulation according to the self-determination theory (SDT; Ryan & Deci, 2000). SDT contends that a key component of healthy regulation is awareness. Being aware is necessary to be a self-regulating being. (Schultz & Ryan, 2015). Individuals can only effectively control their behavior if they are aware of what they are doing or have another means of learning about their reactions (Tice & Bratslavsky, 2000).

Adolescents who meditate have the chance to learn how to recognize and control their reactions (Wisner, 2017). Acting with awareness was positively connected with adaptive emotion control techniques. Noticing one's emotions and verbalizing one's internal experience is one way that mindfulness can impact emotion regulation. Through this process, one can become more emotionally clear and learn that emotions are just a fleeting combination of thoughts and sensations (Lani et al., 2019). Mindfulness may increase feelings of happiness and reduce feelings of sadness (Bajaj et al., 2016). People with high levels of mindfulness are more likely to maintain a positive attitude and let go of negative emotions when under stress (Liu et al., 2018). Additionally, prior research has demonstrated the connection between emotion regulation and mindfulness (e.g., Gülden & Yalçın, 2024; Tang et al., 2016; Zhang & Zhang, 2021).

High mindfulness levels may also buffer people from addictive behaviors (Liu et al., 2020). Mindfulness training can help people replace stress- and affect-induced habitual reactions with more adaptive reactions by teaching them to simply observe unpleasant body and mental states instead of reacting to them (Brewer et al., 2015). Nonjudgmental observation of thoughts and behavioral urges (such as cravings) is the way that mindfulness for addictive behaviors is delivered (Schwebel et al., 2020). Therefore, we explored whether the association between adolescent mobile phone addiction and dysfunctional emotion regulation is mediated by mindfulness. Considering SDT and previous research, we put forward the following hypothesis:

Hypothesis 3. Mindfulness mediates the association between internal-dysfunctional emotion regulation and mobile phone addiction.

Hypothesis 4: Mindfulness mediates the association between external-dysfunctional emotion regulation and mobile phone addiction.

The Mediating Role of Self-Control

Self-control is the capacity to withstand both internal and external pressures in order to maintain long-term objectives (Tangney et al., 2004). In the theory of self-control, emotion regulation holds a distinct place in the theory of self-control despite its similarities to many other forms of self-control. This is because it can significantly contribute to the failure of other forms of self-control (Tice & Bratslavsky, 2000). According to the strength model of self-control, a person's ability to exercise self-control is restricted (Baumeister et al., 1994). One way to think about self-control is as an energy model. There is a limited amount of energy, and exercising self-control could weaken it (Muraven & Baumeister, 2000). People who struggle with negative emotions try to control them at the expense of self-control, which makes them more prone to self-control failure. When people are depressed, they often want to feel better and giving in to temptations they would otherwise use self-control to avoid can help them feel better (Tice & Bratslavsky, 2000). Self-control is necessary for managing stress, controlling negative emotions, and restraining oneself from temptation. As a result, self-control attempts to come again are more likely to be unsuccessful (Muraven & Baumeister, 2000).

The self-control resource model postulates that negative emotions can weaken self-control and inhibit executive functions, which can lead to mobile phone addiction and reduce an individual's resistance to addictive objects (Tong & Meng, 2023). Delaying gratification is a crucial self-control exercise because it calls for controlling one's impulsive responses to postpone gratification and reap the benefits later (MacKenzie & Baumeister, 2015). In this regard, according to some researchers, mobile phone addiction is a disorder of impulse control (Song & Park, 2019; Young, 1996) and a failure of self-control (Cheng et al., 2020). Khang et al. (2013) posit that individuals with low self-control may be prone to compulsive mobile phone use. Because of their insufficient self-control and strong desire for the extensive features of mobile phones, adolescents are particularly vulnerable to developing an addiction to these devices (Liu et al., 2018). Therefore, we explored whether self-control plays a mediating role in the association between dysfunctional emotion regulation and mobile phone addiction among adolescents. Based on self-control theory and previous research, we suggest the following hypothesis:

Hypothesis 5. Self-control mediates the association between internal-dysfunctional emotion regulation and mobile phone addiction.

Hypothesis 6. Self-control mediates the association between external-dysfunctional emotion regulation and mobile phone addiction.

The Serial Mediating Role of Mindfulness and Self-Control

Emotion is only momentarily subdued by dysfunctional emotion regulation techniques (Sheppes et al., 2011). Emotion regulation can occur implicitly or nonconsciously as well as intentionally (Tang et al., 2016). On the other hand, mindfulness can enhance present-moment clarity of experience and contact with life, which can directly improve well-being (Brown & Ryan, 2003). Mindfulness enables practitioners to discern with clarity what motivates their behavior and whether it is guiding them toward or away from their objectives (Brewer et al., 2015). When awareness of internal and external conditions is inhibited, the ability to mobilize and consciously self-organize and regulate actions is also inhibited (Ryan et al., 2012). To promote self-control, mindfulness practices that emphasize present-moment awareness and nonjudgmental acceptance are essential (Teper et al., 2013). In other respects, it is possible to see addiction as a lack of self-control (Song & Park, 2019). It has been proposed that people having low self-control are more prone to becoming addicted to mobile phones (Khang et al., 2013), and a meta-analysis revealed a positive relationship between impulsivity and internet addiction (Li et al., 2021). Therefore, we explored whether both self-control and mindfulness play a mediating role in the association between dysfunctional emotion regulation and mobile phone addiction.

Hypothesis 7. The association between internal-dysfunctional emotion regulation and mobile phone addiction is serially mediated mindfulness and self-control.

Hypothesis 8. The association between external-dysfunctional emotion regulation and mobile phone addiction is serially mediated mindfulness and self-control.

The Current Study

In this research, two studies were conducted. The objective of Study 1 is to evaluate the psychometric properties of the Five Facet Mindfulness Questionnaire-Short Form (FFMQ-S) and the Self-Control Scale (SCS) were investigated in adolescents, which have been previously validated in adult populations. Given that adolescents are in a distinct age and developmental phase, it is imperative to validate the factor structure of both scales within this specific age and developmental context. In this context, we believe that Study 1 will provide valid and reliable measurement tools that can be used in studies conducted with this age and developmental group.

The objective of Study 2 was to examine the relationships between dysfunctional emotion regulation (internal and external) and mobile phone addiction and the mediating effects of mindfulness and self-control variables on these relationships. Although it has been demonstrated that mobile phone addiction is associated with dysfunctional emotional regulation, not all adolescents may be equally impacted. Earlier research has paid attention to the direct association between emotional regulation and mobile phone use. What is known about the relationships between internal- and external-dysfunctional dimensions of emotion regulation and mobile phone addiction and the factors mediating these relationships

is limited. To our knowledge, this is the first research using serial mediation to test the effects of self-control and mindfulness on the relationship between dysfunctional emotion regulation and mobile phone addiction among Turkish adolescents. Thus, the goal of this study is to close these gaps by examining the mediating function of self-control and mindfulness in this relationship (see Figure 1). We believe that the findings of this study can help researchers and professionals gain a better comprehension of adolescents' mobile phone addiction and aid in the prevention of mobile phone addiction among adolescents. In order to provide prevention and intervention services for mobile phone addiction, it is crucial to comprehend the underlying mechanism behind the mobile phone addiction.

Study I

In Study I, the psychometric properties of the Five-Facet Mindfulness Questionnaire- Short Form and Self-Control Scale were examined among adolescents. The scales have previously been adapted to Turkish adults (18 years and older). However, adolescents have different characteristics than adults because they are in a younger age group and at a different developmental stage. For these reasons, the psychometric properties of the scales for adolescents were examined.

Method

Participants

A total of 308 voluntary high school students (139 females and 169 males) in Ankara, the capital city of Turkey, participated in the study. The participants' average age was 15.27 years (SD=1.10, 13-18 years). In this study, convenience sampling was used, and the data were collected via a web-based survey. A total of 34.4% of the participants were 9th grade students, 21.1% were 10th grade students, 30.8% were 11th grade students and 13.6% were 12th grade students.

Measures

Five-Facet Mindfulness Questionnaire-Short Form (FFMQ-S)

The scale was adapted by Tran et al. (2013) and was subsequently adapted into Turkish by Deniz Ayalp and Hisli Şahin (2018). The scale consists of five subscales: observe (e.g. *I pay attention to sensations, such as the wind in my hair or sun on my face*), describe (e.g. *I can usually describe how I feel at the moment in considerable detail*), act aware (e.g. *I am easily distracted*), nonjudge (e.g. *I think some of my emotions are bad or inappropriate and I shouldn't feel them*) and

nonreact (e.g. *I perceive my feelings and emotions without having to react to them*). The scale contains 20 items on a 5-point Likert scale (1 = never to 5 = almost always). Increased mindfulness is indicated by a high score on the measure. According to the findings, the scale is valid and reliable. Cronbach's α reliability coefficient was 0.71 for the entire scale, 0.69 for observe subscale, 0.69 for describe subscale, 0.85 for act aware subscale, 0.76 for nonjudge subscale and 0.71 for nonreact subscale (Deniz Ayalp & Hisli Şahin, 2018).

The Self-Control Scale (SCS)

Rosenbaum (1980) developed the scale and Duyan et al. (2012) adapted it into Turkish. The original form of the scale consists of a single dimension, while the Turkish form consists of three subdimensions: experiential self-control (e.g. *I often find it difficult to overcome my feelings of nervousness and tension without any outside help*), reformative self-control (e.g. *When I do a boring job, I think about the less bonng parts of the job and the reward that I will receive once I am finished*) and restorative self-control (e.g. *When I am feeling depressed I try to think about pleasant events*). The scale contains 36 items on a 6-point Likert type (-3 = does not suit me completely to +3 = suits me completely). A high self-control level is indicated by a high score on the scale. According to the findings, the scale is valid and reliable. Cronbach's α reliability coefficient was 0.81 for the entire scale, 0.84 for experiential subscale, 0.76 for reformative subscale and 0.73 for restorative subscale (Duyan et al., 2012).

Data Analysis

The construct validity of the scales was tested using CFA and the maximum likelihood estimation method. LISREL was used for analysis. Chi-square, RMSEA, CFI, TLI and SRMR values were examined to evaluate model fit. We examined the Cronbach's alpha (α) coefficients for reliability.

Ethics and Procedure

Prior to the study, the Sivas Cumhuriyet University Educational Sciences Research Proposal Ethics Review Board gave its approval (No: 17, Date: 26.12.2022), and research consent was acquired from the Ministry of National Education of the Republic of Türkiye. After ethical approval and research permission, the scales were converted into online forms and sent to the participants. Participants completed the forms in 15-20 minutes.

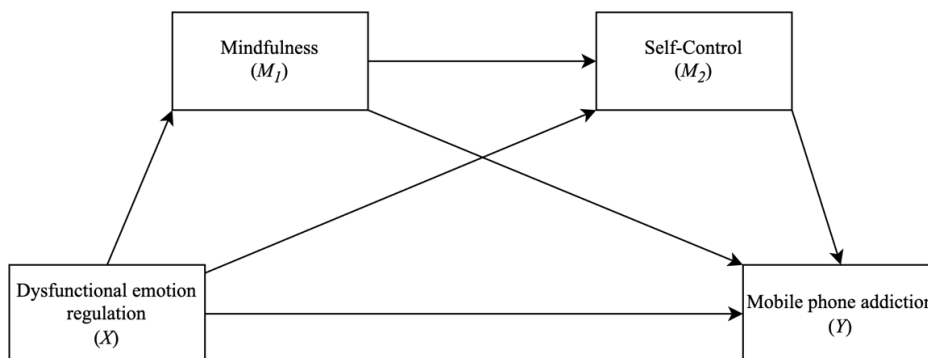


Figure 1. Conceptual framework of the model

Table 1. Factor intercorrelations, reliability, and descriptive analysis results of the FFMQ-S

Factor	1	2	3	4	M	SD	Cronbach α
1. Observe	-				13.94	2.99	0.64
2. Describe	-0.01	-			13.26	3.16	0.67
3. Actaware	-0.10	0.59**	-		10.92	3.79	0.85
4. Nonjudge	-0.16	0.44**	0.60**	-	11.56	3.39	0.73
5. Nonreact	0.24**	0.31**	0.25**	0.02	12.08	3.26	0.70
FFMQ-S ^a					61.77	9.66	0.77

Note. ** $p < .05$ ^a Values of the entire Five Facet Mindfulness Questionnaire-Short Form

Table 2. Results of the factor intercorrelations, reliability, and descriptive analysis of the SCS

Factor	1	2	3	M	SD	Cronbach α
1. Experiential	-			-5.15	11.93	0.74
2. Reformative	-0.25**	-		10.30	14.23	0.83
3. Restorative	-0.20**	0.82**	-	5.97	12.50	0.79
SCS ^a				11.11	24.10	0.79

Note. ** $p < .05$ ^a Values of the entire Self-Control Scale

Results

CFA revealed that the 5-factor structure of the Five Facet Mindfulness Questionnaire-Short Form had an acceptable model fit: $\chi^2(df = 160, N = 297) = 349.00, p < .001$; CFI = 0.930, TLI = 0.910, SRMR = 0.072, RMSEA = 0.063 (90% CI = 0.054 ~ 0.072). All item loadings are significant and range between 0.39 and 0.84. Finally, reliability analysis revealed that the Cronbach's alpha (α ranging from 0.64–0.85) were acceptable. Table 1 presents the findings of the factors' descriptive analysis, reliability, and correlation.

CFA revealed that the 3-factor structure of the Self-Control Scale did not have an acceptable model fit: $\chi^2(df = 591, N = 298) = 1273.74, p < .001$; CFI = 0.900, TLI = 0.890, SRMR = 0.074, RMSEA = 0.062 (90% CI = 0.058 ~ 0.067). On a theoretical basis, the error variances between item pairs 5-13, 23-31 and 14-19 were correlated. Following modification, the CFA revealed that the scale's model fit was within an acceptable range: $\chi^2(df = 588, N = 298) = 1099.15, p < .001$; TLI = 0.920, SRMR = 0.070, CFI = 0.920; RMSEA = 0.054 (90% CI = 0.049 ~ 0.059). All item loadings are significant and range between 0.23 and 0.68. Table 2 displays the findings of the descriptive analysis, reliability, and correlation.

Study II

Following the examination of the scales' psychometric qualities in Study I, the relationships between dysfunctional emotion regulation, mindfulness, self-control and mobile phone addiction were examined, and hypotheses were tested in Study II.

Method

Participants and procedures

Study II included 374 high school students [237 female (63.4%) and 137 male (36.6%)] with an average age of 15.57 years (SD=1.10, 14-18 years) residing in Ankara, Türkiye. Online survey data were collected via Google Forms. In this study, convenience sampling was used. The forms were sent to the students' WhatsApp class groups in their schools. The data were collected from five high schools in Ankara. First, personal data were collected. Information regarding mobile phone usage was included in this study. This was followed by the psychometric exams. The design of the online survey allowed respondents to discontinue participation at any time. More comprehensive data regarding the participants is given in Table 3.

Measures

In this study, in addition to the Five-Facet Mindfulness Questionnaire-Short Form and Self-control Scale, which are the scales used in Study 1, the following scales were also used.

Test of Mobile-phone Dependence (TMD)

Choliz (2012) developed the scale, which Fırat and Balcı Çelik (2017) adapted it into Turkish. Three subscales make up the scale: tolerance/interference (e.g. *Since I got my mobile phone, I have increased the number of SMSs I send*), lack of control/problems (e.g. *I have been called on the carpet or warned about using my mobile phone too much*), and abstinence (e.g. *I need to use my mobile phone more and more often*). 22 items on a 5-point Likert scale make up the scale. The first 10 items of the scale are rated between 0 = never and 4 = frequently, and the remaining 12 items are rated between 0 = completely disagree and 4 = completely agree. On the scale, a high score denotes a high level of smartphone addiction. According to the findings, the scale is valid and reliable. Cronbach's α reliability coefficient was 0.92 for the entire scale, 0.82 for tolerance/interference subscale, 0.77 for lack of control/problems subscale and 0.87 for abstinence subscale (Fırat & Balcı Çelik, 2017).

The Regulation of Emotions Questionnaire (REQ)

Duy and Yıldız (2014) adapted the scale into Turkish after it was developed by Phillips and Power (2007). The internal-functional, internal-dysfunctional, external-functional, and external-dysfunctional subdimensions of emotion regulation make up the scale. The emotion regulation scale is composed of the internal-dysfunctional (e.g. *I harm or punish myself in some way*), internal-functional (e.g. *I review (re-think) my thoughts or beliefs*), external-dysfunctional (e.g. *I take my feelings out on others verbally*), and external-functional (e.g. *I talk to someone about how I feel*) subdimensions. The scale contains 18 items on a 5-point Likert scale (1 = not at all to 5 = always). Within this research, the internal-dysfunctional and external-dysfunctional emotion regulation subscales of the scale were used. According to the findings, the scale is valid and reliable. Cronbach's α reliability coefficient was 0.68 for the internal-dysfunctional subscale, 0.74 for internal-funtional subscale, 0.76 for external-dysfunctional subscale and 0.59 for external-functional subscale (Baki & Yıldız, 2014).

Table 3. Participant characteristics

Variable	Frequency (n)	%
Grade		
9 th Grade	81	21.7
10 th Grade	135	36.1
11 th Grade	103	27.5
12 th Grade	55	14.7
Average time spent on mobile phone during weekdays		
Never	3	.8
Less than 1 hour	5	1.3
1-2 hours	42	11.2
2-3 hours	90	24.1
3-4 hours	80	21.4
4-5 hours	62	16.6
5-6 hours	40	10.7
6 hours or more	52	13.9
Average time spent on mobile phone during weekends		
Never	2	.5
Less than 1 hour	5	1.3
1-2 hours	16	4.3
2-3 hours	43	11.5
3-4 hours	66	17.6
4-5 hours	81	21.7
5-6 hours	51	13.6
6 hours or more	110	29.4
Frequency of checking mobile phone		
Always	83	22.2
Every 5 minutes	53	14.2
Every 15 minutes	59	15.8
Every half an hour	71	19.0
Once an hour	34	9.1
Every few hours	46	12.3
A few times a day	28	7.5
Purpose of mobile phone usage		
Spending time having fun	149	39.8
Alleviating boredom	131	35.0
Talking on the phone	11	2.9
Messaging on the phone	46	12.3
Watching lesson videos/Doing research for the lesson	20	5.3
Playing games	17	4.5
Parental restrictions on mobile phone usage		
Never	128	34.2
Sometimes	182	48.7
Usually	54	14.4
Always	10	2.7

Data Analysis

The process of data analysis was performed in phases. First, descriptive statistics and statistical assumptions were examined. Second, serial mediation analysis was performed. The analysis was performed with the PROCESS v4.2 (Model 6; Hayes, 2022) plugin. The significance of the mediating effect was examined by performing 5000 resamples using the bootstrapping estimation method. The confidence interval (CI) was set at 95%, and confidence intervals not approaching zero were considered to indicate statistical significance.

Results

Descriptive Statistics

Table 4 displays the findings of the correlation analysis and descriptive statistics. Descriptive statistics were examined for the assumptions required for analysis. Univariate outliers were examined with *z* standard scores, and there were no data

outside the range of ±3.29 (Tabachnick & Fidell, 2010). The Mahalanobis distance was calculated for multivariate extreme values. Three data points exceeding the critical value were removed from the analysis. Kurtosis and skewness values were calculated for univariate normality. The values for kurtosis and skewness vary from -0.325 to 0.216 and -0.076 to 0.522, respectively. Tabachnick and Fidell (2010) state that these values fall within a range of ±1.5. According to Mardia's (1970) multivariate skewness ($\hat{\gamma}_{1,p} = 36.837, p < .05$) and kurtosis ($\hat{\gamma}_{2,p} = 0.743, p > .05$) values calculated utilizing the online tool MVN to evaluate multivariate normality (Korkmaz et al., 2014), the data did not show multivariate normality. For the multicollinearity problem, Durbin Watson coefficients (1.836), variance inflation (ranging from 1.279–1.648), tolerance (ranging from 0.607–0.782) and correlation (ranging from -0.498–0.444) values were examined. It was considered that there was no multicollinearity problem because the values were within recommended limits (Field, 2013).

Table 4. Descriptive statistics and correlation results

	1	2	3	4	5
1. Mobile phone addiction	-				
2. Internal-dysfunctional emotion regulation	0.317**	-			
3. External-dysfunctional emotion regulation	0.349**	0.378**	-		
4. Self-control	-0.312**	-0.251**	-0.274**	-	
5. Mindfulness	-0.411**	-0.498**	-0.294**	0.444**	-
Mean	43.310	15.248	11.981	12.455	61.075
Standard deviation	14.795	4.248	4.226	21.316	8.127
Skewness	-0.076	0.142	0.522	0.043	-0.023
Kurtosis	-0.130	-0.325	-0.026	0.216	0.041
Cronbach alpha	0.887	0.709	0.718	0.757	0.661
VIF	1.319	1.452	1.279	1.301	1.648
Tolerance	0.758	0.689	0.782	0.768	0.607

Note. $p < .01$

According to Pearson's correlation analysis, all relationships between variables were statistically significant (see Table 4). Mobile phone addiction was positively correlated with internal-dysfunctional emotion regulation ($r = 0.317, p < 0.01$) and external-dysfunctional emotion regulation ($r = 0.349, p < 0.01$) and negatively correlated with self-control ($r = -0.312, p < 0.01$) and mindfulness ($r = -0.411, p < 0.01$). Internal-dysfunctional emotion regulation was positively correlated with external-dysfunctional emotion regulation ($r = 0.378, p < 0.01$) and negatively correlated with self-control ($r = -0.251, p < 0.01$) and mindfulness ($r = -0.498, p < 0.01$). External-dysfunctional emotion regulation was negatively correlated with self-control ($r = -0.274, p < 0.01$) and mindfulness ($r = -0.294, p < 0.01$). Finally, self-control was positively correlated with mindfulness ($r = 0.444, p < 0.01$).

Common Method Bias

To test for common method bias, Harman's single-factor test was employed (Harman, 1967). Exploratory factor analysis was utilized to test the items on the four scales that were used in this investigation. Principal component analysis was used in the analysis, and no rotation was performed. As a result of the analysis, 24 factors with eigenvalues greater than 1 were obtained. These factors explained 63.59% of the total variance. Additionally, the first and most important factor explained 11.60% of the total variance. This value was less than 50%, which is the threshold value for Harman's single-factor test (Podsakoff et al., 2012). According to this result, it was accepted that common method bias had no discernible impact on the interpretation of the data and that no single factor accounted for the majority of the total variance.

Serial Multiple Mediation Analysis

The study employed serial mediation analysis to investigate the potential serial mediating role of mindfulness and self-control in the association between mobile phone addiction and dysfunctional emotion regulation. In the analysis, as stated before, the independent variable (dysfunctional emotion regulation) was considered internal-dysfunctional and external-dysfunctional emotion regulation, and two different serial mediation models were tested. Figure 2 shows the serial mediation analysis results of Model 1. Internal-dysfunctional emotion regulation is the predictive variable in Model 1. The findings revealed that internal-dysfunctional emotion regulation ($\beta = 0.143, p < 0.05$), mindfulness ($\beta = -0.271, p < 0.001$) and self-control ($\beta = -0.156, p < 0.01$) had direct significant effects on mobile phone addiction among adolescents. Additionally, internal-dysfunctional emotion

regulation had a significant negative effect on mindfulness ($\beta = -0.498, p < 0.001$) and had not a significant effect on self-control ($\beta = -0.040, p > 0.05$). Finally, mindfulness had a positive significant effect on self-control ($\beta = 0.425, p < 0.001$).

In the serial mediation analysis of Model 1, three mediation paths were tested, and the results are presented in Table 6. The total indirect effect was statistically significant ($\beta = 0.606, SE = 0.109, 95\% CI: 0.396 \sim 0.831$). The mediating effect of mindfulness on the relationship between internal-dysfunctional emotion regulation and mobile phone addiction was statistically significant ($\beta = 0.470, SE = 0.107, 95\% CI: 0.262 \sim 0.679$). The mediating effect of self-control on the relationship between internal-dysfunctional emotion regulation and mobile phone addiction was statistically insignificant ($\beta = 0.022, SE = 0.031, 95\% CI: -0.034 \sim 0.089$). The serial mediating effect of mindfulness and self-control on the relationship between internal-dysfunctional emotion regulation and mobile phone addiction was statistically significant ($\beta = 0.115, SE = 0.047, 95\% CI: 0.031 \sim 0.217$). The results validated the mindfulness and self-control serial mediating effect on the relationship between internal-dysfunctional emotion regulation and mobile phone addiction. In summary, internal-dysfunctional emotion regulation increases the severity of mobile phone addiction, but this relationship can be reduced by high levels of self-control and mindfulness.

Figure 3 shows the serial mediation analysis results of Model 2. Model 2 used external-dysfunctional emotion regulation as the predictive variable. The results revealed that external-dysfunctional emotion regulation ($\beta = 0.232, p < 0.001$), mindfulness ($\beta = -0.290, p < 0.001$) and self-control ($\beta = -0.120, p < 0.05$) had direct significant effects on mobile phone addiction among adolescents. Additionally, external-dysfunctional emotion regulation had a significant negative effect on mindfulness ($\beta = -0.294, p < 0.001$) and self-control ($\beta = -0.157, p < 0.01$). Finally, mindfulness had a positive significant effect on self-control ($\beta = 0.498, p < 0.001$).

In the serial mediation analysis of Model 2, three mediation paths were tested, and the results are presented in Table 5. The total indirect effect was statistically significant ($\beta = 0.413, SE = 0.082, 95\% CI: 0.260 \sim 0.583$). The mediating effect of mindfulness on the relationship between external-dysfunctional emotion regulation and mobile phone addiction was statistically significant ($\beta = 0.298, SE = 0.073, 95\% CI: 0.168 \sim 0.450$). The mediating effect of self-control on the relationship between internal-dysfunctional emotion regulation and mobile phone addiction was statistically insignificant ($\beta = 0.066, SE = 0.039, 95\% CI: 0.002 \sim 0.156$).

The serial mediating effect of mindfulness and self-control on the relationship between internal-dysfunctional emotion regulation and mobile phone addiction was statistically significant ($\beta = 0.049$, $SE = 0.027$, 95% CI: 0.002 ~ 0.108). The results validated the mindfulness and self-control serial mediating effect on the association between mobile phone addiction and externally dysfunctional emotion regulation. In conclusion, poor external emotion regulation exacerbates the severity of cell phone addiction; however, strong self-control and mindfulness can mitigate this relationship.

Discussion

The first aim of this study was to conduct a reliability and validity study of the FFMQ-S and SCS scales on Turkish adolescents. The findings showed that both measures are valid and reliable scales for Turkish adolescents. The second objective of the study was to examine the relationship between dysfunctional emotion regulation (internal and external) and mobile phone addiction. The findings of the study revealed that there were positive relationships between these variables. In addition, mindfulness and self-control variables were found to have a serial mediation effect between these variables.

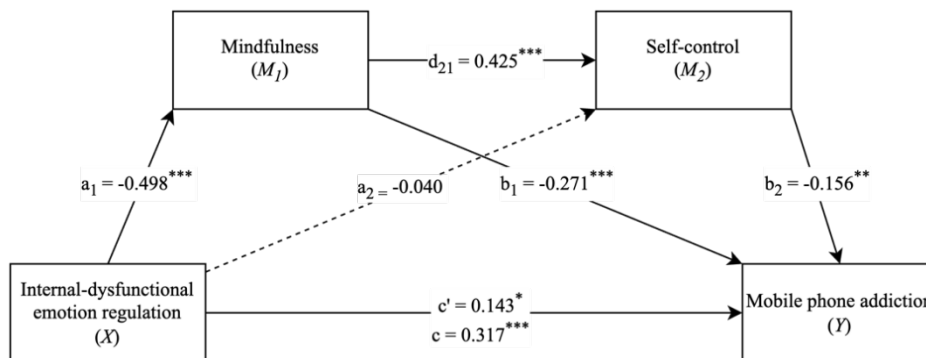


Figure 2. Results of Model 1's serial mediation analysis: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Coefficients that have been standardized are displayed

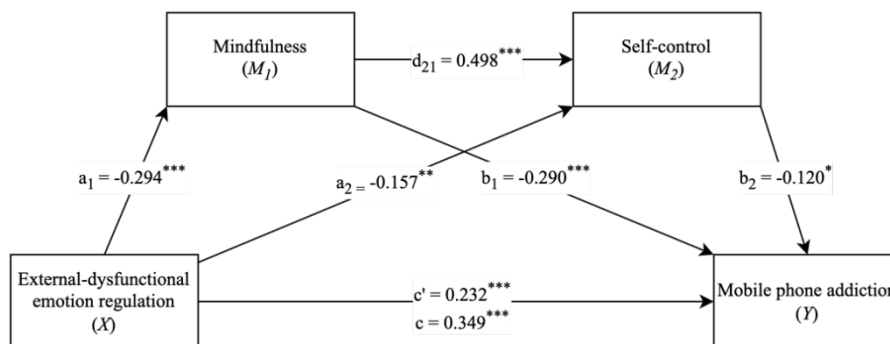


Figure 3. Results of Model 2's serial mediation analysis: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Coefficients that have been standardized are displayed

Table 5. The mediating effect of self-control and mindfulness

Model Pathways	Unstandardized coefficient (β)	SE	Bootstrapping (95% CI)	
			Lower Limit	Upper Limit
Model 1				
Total effect	1.103	0.190	0.730	1.478
Direct effect	0.497	0.202	0.100	0.895
Total indirect effect	0.606	0.109	0.396	0.831
ID → MF → MPA	0.470	0.107	0.262	0.679
ID → SC → MPA	0.022	0.031	-0.034	0.089
ID → MF → SC → MPA	0.115	0.047	0.031	0.217
Model 2				
Total effect	1.223	0.168	0.892	1.554
Direct effect	0.810	0.174	0.468	1.152
Total indirect effect	0.413	0.082	0.260	0.583
ED → MF → MPA	0.298	0.073	0.168	0.450
ED → SC → MPA	0.066	0.039	0.002	0.156
ED → MF → SC → MPA	0.049	0.027	0.002	0.108

Note. ID = internal-dysfunctional emotion regulation, ED = external-dysfunctional emotion regulation, SC = self-control, MF = mindfulness, MPA = mobile phone addiction.

The results confirmed the third and fourth hypotheses of the present study (H3, H4). The role of mindfulness as a mediator in the connection between addiction to mobile phones and dysfunctional emotion regulation (internal and external) among adolescents was tested, and the hypothesis was confirmed. Dysfunctional emotion regulation is inversely associated with mindfulness among adolescents. Furthermore, increased mindfulness predicts decreased mobile phone addiction. Mindfulness training increases awareness of the present moment and embodied experience and reduces verbal-conceptual elaboration in response to emotions, which can prolong or exacerbate the initial emotional response and result in depression, anxiety, and other persistently negative states (Jain et al., 2007). For example, Devcich et al. (2017) reported that an 8-week mindfulness-based program led to significant increases in well-being outcomes among students between nine and 11 years old. Similarly, Ekblad (2009) observed that mindfulness practices are strongly correlated with increased positive emotional experiences. People who practice mindfulness are better able to employ more adaptive coping mechanisms (Weinstein et al., 2009). Tomlinson et al.'s (2018) systematic review revealed that higher mindfulness is linked to lower perceived stress, and people who have higher mindfulness react to stressful situations more adaptively and show less emotional and stress reactivity when faced with adversity. Similarly, Lani et al. (2019) investigated the relationship between specific mindfulness skills and emotion regulation strategies. The findings showed that describing had a negative correlation with dysfunctional emotion regulation and a positive correlation with functional emotion regulation techniques. Suppression of emotional expression, reappraisal, suppression of emotional experience, and acceptance were all positively connected with nonreactivity. Adaptive emotion control techniques were positively correlated with acting with awareness.

The results did not confirm the fifth hypothesis of the present study (H5). Adolescents' mobile phone addiction and internal-dysfunctional emotion regulation are not mediated by self-control. This result can be interpreted by considering the complex relationships in the literature on the mediating role of self-control on emotion regulation. Studies have frequently shown that mindfulness and self-control can work together to influence addictive behaviors. For example, mindfulness has been found to reduce the impact of dysfunctional emotion regulation strategies by supporting self-control mechanisms (Baer et al., 2006; Bowlin & Baer, 2012). In this context, mindfulness may have played a role in breaking or weakening the indirect effect of internal dysfunctional emotion regulation on self-control. It is possible that in individuals with high levels of mindfulness, internal dysfunctional emotion regulation strategies have a less direct effect on self-control.

The results confirmed the sixth hypothesis of the present study (H6). Adolescents' mobile phone addiction and external-dysfunctional emotion regulation are mediated by self-control. Increased external-dysfunctional emotion regulation was associated with decreased self-control, which appeared to predict greater mobile phone addiction. The study findings revealed that dysfunctional emotion regulation was inversely associated with self-control. This result is in line with earlier studies suggesting that mobile phone addiction and self-control are inversely correlated (Ding et al., 2022; Mazılı & Gültekin, 2020; Özdemir et al., 2014; Song & Park, 2019; Zeng et al., 2022) and with the strength model of self-control. As a result of the study conducted by Mazılı and Gültekin

(2020) with 868 high school students, a moderate negative significant relationship was found between the level of mobile phone addiction and the level of self-control in adolescents. Several tasks such as managing emotions, eat up and exhaust the limited resources needed to maintain self-control, which, according to the strength model of self-control, results in the failure of self-control (Baumeister et al., 2007). People with little capacity for self-control are less effective at controlling their emotions (Muraven et al., 1998). When people are in a bad mood, they frequently want to feel better and giving in to temptations that they usually resist self-control can make them feel better. Because emotional distress is so unpleasant, in an effort to feel better, people usually prioritize ending it (Tice & Bratslavsky, 2000). Self-control has a major impact on the likelihood of becoming dependent on a mobile phone (Kim et al., 2018). Delaying gratification is a crucial self-control exercise because it calls for controlling one's impulsive responses to postpone gratification and reap the benefits later (MacKenzie & Baumeister, 2015). Due to their inability to control the impulse to use their phones, adolescents may use them excessively (Liu et al., 2018). People who use the internet problematically have trouble controlling their impulsive behaviors and accepting negative emotions (Pettorosso et al., 2020).

Finally, the seventh and eighth hypotheses of the current study were confirmed (H7, H8). The association between dysfunctional emotion regulation and mobile phone addiction is serially mediated by mindfulness and self-control. In this framework, dysfunctional emotion regulation (internal and/or external) is inversely linked to mindfulness and self-control, mindfulness and self-control is inversely linked to mobile phone addiction, and both mindfulness and self-control predict decreased mobile phone addiction. Earlier research's findings are consistent with these findings. Song and Park (2019) reported that stress and internet addiction were negatively correlated with self-control. Cho et al. (2017) proposed that self-control acts as a mediator in the link between smartphone addiction and stress. Zhang and Zhang (2021) revealed that mindfulness-based interventions can improve adolescents' levels of mindfulness and self-control in addition to helping adolescents lessen emotion dysregulation. The findings of the current study showed that by increasing mindfulness and thereby lowering the likelihood of becoming addicted to mobile phones, self-control had a dual mediating effect on addiction. Because mindfulness cultivates present-moment awareness and nonjudgmental acceptance, it is essential for fostering self-control, which improves the response to early affective cues that signal the need for control, such as efficient emotion regulation, and increases sensitivity to affective cues in the experiential field (Teper et al., 2013). According to Yang et al. (2023), mindfulness among teenagers is positively correlated with self-control but negatively correlated with addiction to mobile phones. Another study found that self-control and mindfulness play a role in mediating the relationship between stress and internet addiction (Song & Park, 2019).

There are a few things to keep in mind when interpreting the study's results. First, the study was based on self-report measures, which could diminish the internal validity of the findings. Second, the results have limited generalizability. The generalizability of the results is restricted because the current sample consists solely of high school pupils in Ankara, Turkey. To enable the generalization of the findings, different regions of Turkey and adolescents of different age groups

should be taken into account, and our model should be retested in future research. Third, there is no cause-and-effect relationship since the research is cross-sectional. In this way, the results will be strengthened by repeating hypothesis testing using various experimental and longitudinal design measurement techniques. To improve our understanding of how dysfunctional emotion regulation, mindfulness and self-control contribute to mobile phone addiction, more research using randomized and actively controlled research designs is needed.

Despite these limitations, these findings may help researchers and practitioners obtain a better understanding of adolescents' mobile phone addiction. The current study has potential implications for preventing mobile phone addiction among adolescents by improving their levels of emotion regulation, mindfulness, and self-control. Counseling services and other professionals should consider the role of these variables to understand and prevent mobile phone addiction among adolescents. According to research, mindfulness can also be developed through practice (Bishop et al., 2004; Gülden & Yalçın, 2024). In addition, self-control ability is similar to a muscle that can be strengthened with consistent training and exercise according to strength model (MacKenzie & Baumeister, 2015). Similarly, in this respect, programmes focused on mindfulness and self-control could be developed and implemented. Considering that changes in the brain are most likely to occur in adolescence (Huttenlocher, 2009), such interventions are likely to be beneficial for adolescents.

Conclusion

To our knowledge, the current research was the first to examine mindfulness and self-control as serial mediators of the relationship between dysfunctional emotion regulation and mobile phone addiction in adolescents. Greater dysfunctional emotion regulation directly heightens the risk for mobile phone addiction. Specially, in serial fashion, greater dysfunctional emotion regulation is related to lower mindfulness and self-control, which is linked to greater mobile phone addiction. Stated differently, the extent of mobile phone addiction is heightened by both external and internal dysfunctional emotion regulation; however, these associations can be mitigated by practicing mindfulness and self-control.

Author Contributions

All authors were equally involved in all processes of the article. All authors read and approved the final version of the study.

Ethical Declaration

Ethics approval was obtained from Sivas Cumhuriyet University Educational Sciences Research Proposal Ethics Review Board (No: 17, Date: 26.12.2022), and research permission was obtained from the Ministry of National Education of the Republic of Türkiye.

Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Examining the Efficacy of Psycho-Educational Program for Mothers on Mothers' Perception of Child Education Competence

Annelerine Yönelik Psiko-Eğitim Programının Annelerin Çocuk Eğitimi Yeterlik Algılarına Etkisinin İncelenmesi

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Abstract: Though parental efficacy is emphasized in much admirable research, very few social programs have been assessed. Parenting is a potential protective or risk factor for the development of the child and predicts outcomes related to the child's developmental processes. In this study, the effect of a psychoeducation program on the childhood education efficacy perceptions of mothers was examined. The study is a quasi-experimental design with a pre-test and post-test control group. 20 mothers with primary school children residing in Turkey, 10 in the experimental group and 10 in the control group, participated in the research. Each mother in the experiment group completed a psychoeducation program comprising 10 sessions lasting 50 minutes. Prior to the psycho-education, it was determined that there was no significant difference between the scores of the experimental and control groups obtained from the Child Education Efficiency Scale (CEES) as well as the Bringing Responsibility, Communication-Interaction, Knowing the Child, Developing the Child, and Guiding the Child subscales. The result of the research revealed that the experimental group had significantly higher scores for the Child Education Efficiency Scale and all subscales after receiving psychoeducation compared to before the training. On the other hand, there was no significant difference between the scores of the control group from the CEES or any subscales before and after psychoeducation. In addition, after psychoeducation, the scores of the experimental group were significantly higher for the CEES and Bringing Responsibility, Communication-Interaction, and Developing the Child subscales compared to the control group. There was no significant difference in the Guiding the Child, Knowing the Child subscales. The results indicate that the efficacy levels of mothers can be increased and explain the probable mechanisms that may affect efficacy.

Keywords: Maternal education, psychoeducation, perception of efficacy, self-efficacy, experimental study

Öz: Ebeveyn yeterliğini takdir araştırmalarla vurgulanan bir olgu olsa da bu konuda az sayıda topluluk programı değerlendirilmiştir. Oysa ebeveynlik, çocuğun gelişiminde önemli bir faktördür ve çocukların gelişimsel süreçleriyle ilgili sonuçları öngörmektedir. Bu araştırmada annelere yönelik psiko-eğitim programının, annelerin çocuk eğitimi yeterlilik algısına etkisi incelenmiştir. Bu kapsamda gerçekleştirilen çalışmada ön-test son-test kontrol gruplu yarı deneysel desen kullanılmıştır. Araştırmaya deney grubunda 10, kontrol grubunda 10 olmak üzere Türkiye'de ikamet eden, ilkökul çocuğuna sahip 20 anne katılmıştır. Deney grubundaki annelere her biri 50 dakika süren 10 oturumdan oluşan psiko-eğitim programı uygulanmıştır. Psiko-eğitim çalışmasından önce deney ve kontrol grubunun Çocuk Eğitimi Yeterliği Ölçeği (ÇEYÖ) ve ölçeğin sorumluluk kazandırma, iletişim-etkileşim, çocuğu tanıma, çocuğu geliştirme ve çocuğu yönlendirme alt boyutlarından aldıkları puanlar arasında anlamlı bir farklılık olmadığı saptanmıştır. Araştırma sonucunda deney grubunun psiko-eğitimden sonra aldıkları ÇEYÖ ve ölçeğin alt boyut puanlarının tamamı, psiko-eğitimden önce aldıkları puanlara göre anlamlı düzeyde yüksek bulunmuştur. Kontrol grubunun ise psiko-eğitimden önce ve sonra ÇEYÖ ve sorumluluk kazandırma, iletişim-etkileşim, çocuğu tanıma, çocuğu geliştirme, çocuğu yönlendirme alt boyutlarından aldıkları puanlar arasında anlamlı bir farklılık olmadığı saptanmıştır. Ek olarak psiko-eğitimden sonra deney grubunun kontrol grubuna göre ÇEYÖ ve sorumluluk kazandırma, iletişim-etkileşim, çocuğu geliştirme alt boyutlarından aldıkları puanların anlamlı düzeyde daha yüksek olduğu, çocuğu yönlendirme, çocuğu tanıma alt boyutlarında ise anlamlı bir farklılığın olmadığı saptanmıştır. Çalışmanın sonuçları, annelerin yeterlik düzeylerinin artırılabilirliğini ortaya koymakta ve yeterlik üzerinde etkili olabilecek muhtemel mekanizmaları açıklamaktadır.

Anahtar Kelimeler: Anne eğitimi, psiko-eğitim, yeterlik algısı, özyeterlik, deneysel çalışma

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Introduction

The association between parenting approaches and the child's developmental processes forms a broad-scale topic of investigation. Positive parenting is defined as an approach supporting the social and psychological development of children; negative parenting, on the other hand, is considered a significant risk factor due to its negative effects on these developmental areas (Dallaire et al., 2006; Yang et al., 2023). Research provides much evidence that negative parenting may be associated with internalized and externalized behavior like anxiety, depression (Clayborne, 2021; Smokowski et al., 2015), aggression, and overreactions (Dishion & Patterson, 2006; Snyder et al., 2005) in children. Additionally, studies

obtained results about the negative effects of negative parenting on the brain (Jiang et al., 2011). However, research also reported a negative correlation between positive parenting with internalized and externalized behaviors (Barrera et al., 2002; Boeldt et al., 2012) and associations with high self-esteem and optimism about the future (Smokowski et al., 2015). The studies have drawn attention to the association between parenting and children's developmental processes as well as emphasized that parental competence, which includes the knowledge, skills, and attitudes necessary to support children's development, possesses a significant role in exhibiting positive parenting traits (Coleman & Karraker, 1998; Hamovitch, 2019). While studies have drawn attention

to the connections between parenting and the child's developmental processes in this way, they emphasized that those with high parental efficacy may display positive parenting features (Coleman & Karraker, 1998; Hamovitch, 2019). Studies with the purpose of decreasing the impact of risk factors while increasing the effect of protective factors encourage positive parenting (Rodrigo et al., 2012) and point out that more studies should be conducted regarding parental competence (Amin et al., 2018; Zorbaz, 2018) so that the effectiveness of intervention programs can be significantly increased. Though several studies revealed promising results concerning developing parental efficacy with intervention programs, they are inconsistent (Ruiz-Zaldibar et al., 2018; Sarabi, 2011), and more studies are required about this topic (Enebrink et al., 2015). In addition to all of this, studies advocate the opinion that the child education efficacy of parents, especially of mothers, is significant for the child's education and development (Lara & de los Pinos, 2016). Education level of mothers, parenting approaches, and the emotional support they provide have a direct impact on children's cognitive, social, and emotional development (Miller, 2008; Santrock, 2015). Research has shown that the safe and supportive environment provided by mothers assists children in developing a sense of self-esteem and having positive experiences in their social relationships (Coleman & Karraker, 2000; D'Aoust, 2008); besides, mothers' attitudes and behaviors towards their children play a decisive role in their academic achievement and social adaptation (Santos et al., 2013; Tezel Sahin, 2014). Furthermore, mothers' tendency to spend more time in the care of children and to provide emotional support from their early years reinforces these findings (Kılıçaslan, 2007; Shahraki et al., 2016). Therefore, this fact reveals that the competence of mothers in child education becomes a primary subject as a determining factor in the general development of children as well as indicates the importance of studies to be conducted on this theme (Kim and Moon, 2005). However, it was revealed that studies about this topic are limited in Türkiye and need to be expanded (Yeşil et al., 2018; Aksüt, 2022). Based on these results, a psychoeducation program developed and implemented to increase child education efficacy perceptions of mothers will contribute to filling this gap and drawing attention to protective factors. In this regard, the purpose of the study was to investigate the effect of a psychoeducation program for mothers on the child education efficacy perceptions of mothers. The framework for the theoretical-based approach for the development of the program with this target is presented below.

Theoretical Background

Self-efficacy is a belief of people concerning their capability to be able to complete any work or tasks expected of them and their skills related to this (Bandura, 1977). Social learning theory explains self-efficacy as it reveals the individual's potential to mobilize for the stated task, the effort they will expend for the duty, and the duration they will work despite obstacles (Bandura, 1995). When self-efficacy overlaps with outcome expectations, the action and effort expended by the individual will increase to the degree to which they trust their own efficacy (Bandura & Schunk, 1981). Bandura (1993) proposed that self-efficacy functions as a mediator between belief, information, and implementation.

From the view of Bandura's social learning theory (Bandura, 1994, 1999), self-efficacy is supported by four basic

sources of information. Among these information sources, successful experiences are based on the individual's real experiences and have a clear and strong effect on mastery expectations. Indirect experience includes watching activities completed by others and may be correlated with the mastery capacity of the observer. Verbal persuasion represents verbal feedback emerging from others regarding the individual's potential for success. Physiological and emotional stimuli are the final source of information ensuring the emergence of self-efficacy beliefs. For this information source, aversive physiological stimuli may be associated with the individual's expectations of failure, while fewer of these stimuli may be associated with expectations of success. In addition to all of this, contextual factors such as the four psychosocial processes of cognitive process, affect process, chosen process, and motivation status, and the social, situational, and temporal conditions in which the event occurs, affect self-efficacy. As these factors and the intervening assessment processes are complicated and interrelated with each other, it was noted that self-efficacy is a variable construct, not a fixed construct (Bandura, 2012; Jones & Prinz, 2005).

Bandura (1986, 1997) asserted that self-efficacy possessed three dimensions, which are magnitude, strength, and generality, based on social learning theory. Magnitude is predictions related to the difficulty the individual will have in succeeding at the task. If the person thinks the task is very difficult, they may give up on making the effort. The strength dimension is a measure of the person's trust in themselves in succeeding at the task. People with successful experiences may trust themselves when they need to complete the same task again. Generality represents the individual being able to transfer their successful experiences to others. If a person can generalize their successful experiences to others, they are thought to have high self-efficacy (Coleman & Karraker, 1998).

The concept of self-efficacy in Social Learning Theory was found to be closely associated with parental competence; hence the effects of parents' experiences in child-rearing processes on their children's development as well as their perceptions of self-efficacy were investigated (McMahon et al., 1981; Miller & Prinz, 1990; O'Connor et al., 2013; Scott & Dadds, 2009; Shaffer et al., 2009; Snyder et al., 2013). Based on this conceptual background, definitions, practices, and research have been completed about parenting efficacy (Aksüt, 2022; Bağatarhan & Nazlı, 2013; McCoy et al., 2020). In this context, Teti and Gelfand (1991) defined parenting self-efficacy as beliefs regarding the capability and skill of parents in their parenting role. Coleman and Karraker (1998) proposed that there were a range of requirements for parents to feel adequate, when self-efficacy is applied to the field of parenting based on social learning theory. They stated that for parents to feel adequate they need to believe that they have information about interventions related to appropriate child care, trust their abilities to be able to apply this information successfully, and that their children appreciate these efforts; moreover, other people will encourage these efforts. In a study based on social learning theory, Morelli et al. (2020) discovered that the correlation between psychological distress in parents and a child's emotional regulation and variability/negativity was influenced by parenting self-efficacy and parental regulative emotional self-efficacy. They suggested that parental confidence in managing parenting responsibilities could act as a protective factor for the emotional health of the child.

Bandura (1997) stated that efficacy beliefs of parents are an important basis for parenting practices. In fact, studies revealed that high efficacy levels of parents will ensure they make more effort (Bandura, 1997), support the growth environment for a healthy child (Kılıçaslan, 2007), positively affect the parent-child adjustment (Jones & Prinz, 2005), support the child's health and development (Coleman & Karraker, 2003; Sari & Altay, 2020; Takács et al., 2019), positively affect the mother's sensitivity level (Leerkes & Crockenberg, 2002), and reduce depressive symptoms and stress levels in the mother (Bloomfield & Kendall, 2012; Takács et al., 2019). To illustrate, in a study researching the correlation between parental stress with parenting efficacy and parenting behavior of mothers with small children, Kim and Moon (2005) found parenting efficacy and parenting stress significantly correlated with parenting behavior, and the mother's parenting efficacy mediated the correlation between parenting stress and parenting behavior of the mother. Consequently, the research results found correlations between parenting efficacy with psychological health of parents (Bloomfield & Kendall, 2012; Lavende & Kestler-Peleg, 2017; Teti et al., 1996), positive parenting behavior (Gartstein & Iverson, 2014; Teti & Candelaria, 2002), and the cognitive (Coleman & Karraker, 2003), emotional (Weaver et al., 2008), physiological (Leerkes & Crockenberg, 2002), and social (Aydoğdu et al., 2021) development of the child. Additionally, several studies noted parenting efficacy as a construct that may vary according to environmental, personal, and behavioral factors (Bandura, 2012; Jones & Prinz, 2005), and current experimental studies offered evidence that it may be increased (Mouton & Roskam, 2015; Sofronoff & Farbotko, 2002). For this reason, parenting efficacy, being a variable, enhanceable, and increasable construct, attracts attention to the potential role of parent education in increasing parental efficacy.

Parental education refers to educational interventions designed to assist parents in altering their interactions with their children to discourage adverse child behavior (Croake & Glover, 1977). Studies about child education of parents, especially mothers, revealed this education contributed to reducing behavior problems in their children (Scott & Dadds, 2009), developing positive identity (Karairmak et al., 2016), ensuring educational rights (Oktaria & Putra, 2020), and psychological well-being (Jones & Prinz, 2005). Additionally, studies found that parent education had positive effects on parenting skills (Lara & de los Pinos, 2016) and parental efficacy (Bloomfield & Kendall, 2012; Enebrink et al., 2015) of parents. For instance, Bradley et al. (2003) performed a randomized controlled assessment of a four-session psychoeducation group offered in public institutions for mothers and fathers of preschool children with behavior issues. The research revealed a substantial improvement in parenting practices among participants who received the intervention, resulting in a notable decrease in their children's negative behaviors compared to those in the control group. Bloomfield and Kendall (2012) discovered an association between parental self-efficacy and stress experienced by parents in research that explored the influence of a parenting program on parental self-efficacy, stress levels, and alteration in child behavior. The study finding suggests that increased parenting self-efficacy is correlated with decreased stress levels.

The outcomes of both parent education programs and interventions about parenting efficacy are promising in the literature (Ruiz-Zaldibar et al., 2018). Though studies stated that parenting efficacy is a changeable construct affected by

many variables (Bandura, 2012; Jones & Prinz, 2005), there is a need for additional studies based on a robust theoretical framework to be able to sufficiently understand this construct. In addition to this, studies support the view that adequate child education of parents, especially mothers, is important for the child's education and development (Lara & de los Pinos, 2016). Because mothers' perceptions of competence form the cornerstones of child-rearing practices. Research has shown that the safe and supportive environment provided by mothers assists children in developing a sense of self-esteem and having positive experiences in their social relationships (Coleman & Karraker, 2000; D'Aoust, 2008), as well as that mothers' attitudes and behaviors towards their children play a decisive role in their academic achievement and social adaptation (Santos et al., 2013; Tezel Sahin, 2014). Mothers with a high level of competence contribute positively to their children's development processes by allocating more time to them (Kılıçaslan, 2007). These mothers not only strive to ensure that their children grow up in a healthy environment but also encourage positive parenting behaviors (Coleman & Karraker, 1998; Hamovitch et al., 2019). In this context, increasing the competence levels of mothers is critical both for their own psychological health and for the development of their children (Miller, 2008). Therefore, supportive programs for mothers are regarded as an important element in shaping the future of children (Kim and Moon, 2005). However, it was noted that the studies on this topic in Türkiye are limited and more studies are required (Aksüt, 2022). It was emphasized that studies, especially education-focused experimental studies, were so few as to be non-existent (Yeşil et al., 2018). In this study, the aim was to contribute to resolving this gap and comprehending this construct by focusing on increasing the child education efficacy of mothers.

Present Study

Based on social learning theory, one of the features required by parents to be able to feel they are adequate in terms of parenting is to have sufficient levels of information about child care (Coleman & Karraker, 1998). Intervention studies revealed that programs for parents lead to an increase in the self-efficacy of parents (Adamson et al., 2013; Morawska et al., 2014). In addition, studies emphasize that parenting self-efficacy is associated with mothers' level of knowledge on child development (Hess et al., 2004), that child education competencies of mothers are vital for their children's social, emotional, and cognitive development (Santrock, 2015), and that supportive programs for mothers play a decisive role in forming the future of children (Kim and Moon, 2005). For this reason, this psychoeducation program, prepared based on social learning theory, is expected to increase efficacy levels by contributing to the information about child education of mothers. All of this will provide the opportunity to understand this construct and to become aware of protective factors. In conclusion, the objective of this research was to investigate how a psychoeducation program for mothers influences mothers' perceptions of their efficacy in educating their children. The following hypotheses were tested in the study: (H_1) the post-test scores of mothers in the experiment group participating in the psychoeducation program will be higher by a statistically significant level compared to the control group; (H_2) the post-test scores of mothers in the experiment group participating in the psychoeducation program will be higher by a statistically significant level compared to their pre-test

scores; and (H_3) pre-test and post-test scores of mothers in the control group will not significantly differ.

Method

Research Model

In this study, a pretest-posttest controlled, semi-experimental pattern was utilized. Besides a 2x2 split plot pattern with the first factor defined as two separate groups (experiment-control) was utilized while the second factor was two separate processes (pretest-posttest) (Büyükoztürk, 2010). The research model can be observed in Table 1.

Table 1. Research model

Group	Pre-test	Procedure	Post-test
Experiment	CEES	Psychoeducation program	CEES
Control	CEES	---	CEES

Note. CEES: Child Education Efficiency Scale

Study Group in the Research

The study group comprised 20 volunteer people residing in Konya. The participants were determined by the convenience sampling method; 10 of them were in the experimental group, and 10 of them were in the control group.

The experiment and control groups were selected from mothers of students attending primary education in a state school based on volunteering. The personal information form (PIF) and the CEES were applied to all 47 mothers who volunteered. Following the scale, the scores for each mother were calculated and ranked. The analysis of scale scores was based on psychometric features. The experiment and control groups were determined by random allocation of those with scores below 50 out of 100 (assessed as inadequate and very inadequate). Finally, 10 mothers were included in each group.

Inclusion criteria were considered when determining the experiment and control groups. Inclusion criteria were volunteering for the study, not using medication, and having no diagnosis. Additionally, an important point is to control for possible effects of confounding factors not researched but affecting the dependent variable in experimental studies. As a result, a control group equivalent to the experiment group was formed to remove this risk from the study (Ulaşan, 2018). In the research, the numbers of mothers included in the experiment and control groups were equal; they were at least primary school graduates, were in the development period of young adulthood, were married for at least seven years, and were not employed.

Table 2 shows the demographic information of mothers in both groups. The mean age of mothers in the experiment group was 32.5 years. Of mothers, 60% were primary education graduates, and 40% were secondary education graduates. Of mothers, 30% had one child, 40% had two children, and 30% had three children. Of the mothers, 70% were married for 7-10 years, and 30% were married 10-15 years. Mothers included in the experiment group were not employed.

The mean age of mothers in the control group was 33.3 years. Of mothers, 60% were primary education graduates and 40% were secondary education graduates. Of mothers, 30% had one child, 50% had two children, and 20% had three children. Of mothers, 40% were married for 7-10 years, and 60% were married for 10-15 years. No mother in the control group was employed.

Examining mothers in the experiment and control groups for significant differences between them initially to identify suitability for the research, mothers in both groups were equivalent in terms of pre-test scores prior to the experimental intervention, and they were assessed as abiding by the preconditions for the experimental intervention.

Development and Implementation of Psychoeducation Program for Mothers

Psychoeducation programs target the development of skills to both cope with current problems and to prevent the emergence of problems. Additionally, the aim is that individuals interact and learn from each other with information-based teaching (Brown, 1998; 2004; Geroski & Kraus, 2002). In this psychoeducation program developed for mothers, the objective was to develop their child education-related skills and thus to increase their child education efficacy perceptions.

Preparing a psychoeducation program requires good planning and conducting needs analysis studies and literature reviews (DeLucia-Waack, 2006). In this context, in order to develop a psychoeducation program for mothers, publications on the development and implementation of psychoeducation programs, Family Education Programs, studies for families and mothers, group sessions, and related literature are benefited together with the topics determined following the needs analysis studies (Akosmanoğlu, 2023; Bandura, 1977, 1994, 1999; Bağatarhan & Nazlı, 2013; Brown, 2004; Coleman & Karraker, 1998; Güçray et al., 2009; DeLucia-Waack, 2006; Faber & Mazlish, 2023; Mackenzie, 2000; Lightning, 2017; Green et al., 2018; Yildirim, 2018). The subscales of the CEES of giving responsibility (GR), communication-interaction (CI), knowing the child (KC), developing the child (DC), and guiding the child (GC) were considered. The social learning theory was regarded as the basis. Within the framework of Social Learning Theory, the four basic sources of information of the concept of self-efficacy were considered in the program aimed at improving the child education competencies of mothers. In the program, it was aimed to enhance individuals' perceptions of self-efficacy through activities reinforcing their success experiences. In addition, with indirect experience, participants were allowed to assess their own skill capacities by drawing on each other's experiences. Through verbal persuasion strategies, expert opinions, and group discussions, participants were provided encouraging feedback enabling them to realize their parenting potential. At the point of managing emotional and physiological stimuli, anxiety management and stress coping strategies were applied. In addition, the participating mothers had an opportunity to observe each other's experiences with the modeling method. The activities aimed at improving mothers' self-efficacy perception (e.g., I know my child) were the focus of the program. Thus, it was aimed to enable mothers to discover the developmental characteristics of their children, as well as to reinforce their self-efficacy beliefs. Through drama activities performed in order to improve effective communication skills, both increasing the self-confidence of the participants and establishing a healthier interaction with their children was the main purpose. Besides, positive reinforcement methods were included in the program to enhance the strengthening of mothers' perceptions of self-efficacy by highlighting and celebrating their achievements. Through group discussions and practice sessions, participants shared their experiences and activated social support mechanisms. Thus, in the design of the program, systematic approaches based on social learning theory and the concept of self-efficacy were used. Through creating an effective structure to increase the child education competencies of mothers, it was aimed to ensure that the knowledge gained by the participants was applied and reinforced in practice and to create lasting effects on the development of parenting skills.

Table 2. Demographic information

Variables		Experiment group (f)	Experiment group (%)	Control group (f)	Control group (%)
Mother's age	25-30 years	3	30	2	20
	31-35 years	5	50	5	50
	36-40 years	2	20	3	30
Mother's educational status	Primary education	6	60	6	60
	Middle education	4	40	4	40
Number of children	1	3	30	3	30
	2	4	40	5	50
	3	3	30	2	20
Duration of marriage	7-10 years	7	70	4	40
	10-15 years	3	30	6	60
Mother's employment status	Employed	0	0	0	0
	Unemployed	10	100	10	100

Expertise is required to manage psychoeducation groups. The aim of the leader is not just to present information to the group. The leader must also facilitate personal learning and be supportive of group members expressing themselves and their emotions. They must encourage new learning practices and create the environment and opportunities for this (Brown, 2004). They must focus on the skills that are to be acquired. In this context, role-play and socio-drama methods, the empty chair technique, and example cases should be used in sessions, and homework should be given. Sessions may assist in participants being able to develop life and communication skills, unearth problems, and develop appropriate skills (Furr, 2000). In addition, provided that the first session introduces group members and is a preparatory session, it may assist in reducing the anxiety of group members. Participation in sessions by group members should be increased, and they should be given the opportunity to open up about their feelings in a comfortable way (Yalom & Leszcz, 2005). At the same time, rules should be determined in the first session, and the final session should be a termination (DeLucia-Waack, 2006). In the developed psychoeducation program, introductory activities and the creation of group rules were included in the first session, while the final session was the termination. In addition to teaching information, dramatization studies, group discussions, brainstorming, example practices, stabilization techniques, and a variety of activities were included in the program. The requirement of sharing and practice in each session was considered.

Though the number and duration of psychoeducation sessions may differ linked to time and the development period of the participants, psychoeducation comprises an average of 6 to 20 sessions (Güçray et al., 2009). It is generally appropriate to perform psychoeducation sessions once per week. The frequency of the sessions may vary according to the target of the group, the status of participants and their circumstances (Brown, 2004). In this context, this psychoeducation program for mothers developed, comprising 10 sessions with one session per week, and each session is structured to last 50 minutes. The psychoeducation program was presented to two experts who are specialized in the field of Guidance and Psychological Counseling as well as experienced in the development processes of psychoeducation programs. Following the opinions received and the preliminary application (it consisted of 10 sessions, lasted 10 weeks, and was conducted with 10 mothers), the required revisions were made, and the program, consisting of 10 sessions, was finalized. In the first session of the implemented program, the participants socialized with each other through

the meeting activity, received information on the content of the program, and group rules were created. With the "Who am I?" activity, mothers discovered their identities by introducing themselves. In the second session, the social, emotional, cognitive, and physical development characteristics of the 7-11 age period were discussed, and mothers were enabled to develop awareness regarding their children with the "I know my child" activity, which was used in other sessions to encourage these awareness-raising activities. In this session, mothers discussed the resources of their children. In the third session, topics such as effective communication, active listening, and giving feedback were shared with the child, and mothers improved their communication skills by dramatizing child-mother roles. In the fourth session, parental attitudes (authoritarian, overly permissive, overprotective, and democratic) and sibling relationships were lectured. At this point, the mothers' shares and opinions were also included. In the fifth session, the issue of anxiety in children was discussed; concerns were expressed with the "My Anxiety Story" activity, and mothers were encouraged to discover their own calming methods with the "My Calming Window" study. In addition, mothers expressed the methods their children use to calm down. In the sixth session, the concept of privacy in children was emphasized; With the "Creating a Picture of Trust" activity, the sense of trust was reinforced, and painting privacy-related activities were carried out. In the seventh session, strategies for giving children responsibility were discussed, and responsibilities were determined with the "My Responsibility Chart" activity. In the eighth session, the concept of boundaries in children was discussed; "Border training and border map" activities were carried out. In the ninth session, participants were lectured on the use of screens for children; the effects of screen use in terms of communication, anxiety, privacy, and boundaries were evaluated, and the topics were reinforced with collage work. In the tenth session, following the general evaluation of the program, "Good wishes" were applied with the participants and the post-tests were applied. The content of the 10 sessions is shown in Table 3 in brief.

Data Collection Tools

Personal Information Form (PIF)

The PIF was employed for demographic information of mothers. The PIF included questions regarding the age, educational status, number of children, marriage duration, as well as employment status of mothers.

Table 3. Content of the psychoeducation program

Sessions	Content
1	Introduction activities Describing content of the program Creating group rules Who am I activity
2	7-11 year development period features I know my child My child and resources
3	Information about effective communication with the child Dramatization of communication with the child
4	Parental attitudes Sibling relationships Example applications
5	Anxiety in children The story of my anxiety activity My calming window
6	Privacy of children Creating a safe picture activity Privacy coloring study
7	Giving the child responsibility My responsibility timeline
8	Boundaries in children Boundary education and boundary map study
9	Use of screens by children Communication with children and screens Anxiety in children and screens Privacy of children and screens Boundaries of children and screens Collage study
10	Assessment Good wishes implementation Posttest application

Child Education Efficiency Scale (CEES)

This scale was developed by Yeşil, Aslander and Sahar (2018) with the aim of determining perceptions of parents on child education efficacy. The scale is based on self-assessment and comprises 37 items (e.g., "I can explain my thoughts in a way my child will understand"). The scale involves the following subscales: Bringing Responsibility (BR), Communication-Interaction (CI), Knowing the Child (KC), Developing the Child (DC), Guiding the Child (GC). 5-point likert scale rating—Never (0), Rarely (1), Sometimes (2), Most of the time (3), Always (4) was utilized. Scores obtained from the scale can be calculated based on the arithmetic mean or standard scores in a 100-point system. The scale had Cronbach alpha internal consistency coefficients of 0.92 for the total score, 0.86 for the GR, 0.85 for the CI, 0.85 for the KC, 0.74 for the DC, and 0.76 for the GC subscales.

In this study, the reliability coefficients for the CEES were found 0.93 for the total score, 0.79 for the GR, 0.87 for the CI, 0.89 for the KC, 0.72 for the DC, and 0.85 for the GC subscales.

Data Collection

The required analysis studies were performed prior to commencing the research. Opinions of parents and teachers were requested, and data from studies completed by the school guidance and psychological counseling services were investigated. Finally, it was decided to implement a

psychoeducation program about increasing the efficacy perceptions of parents, and we identified the required topics. The study was conducted with the approval decision received from the XXX Social and Human Sciences Scientific Research and Publication Ethics Committee (Protocol No. 2024/03) at the 2024/03 meeting dated 21.03.2024. Following the announcements of the planned study, parents who volunteered were determined. A total of 47 mothers applied for the study. The PIF and the CEES were applied to mothers. The PIF and the CEES were completed in approximately 15-20 minutes.

Among those with inadequate and very inadequate child education levels, the experiment group included 10 mothers, and the control group included 10 mothers. The psychoeducation program was applied in 10 sessions, each lasting 50 minutes for the experiment group in the study. Immediately after the program, the CEES was reapplied to participants of both groups, thus the post-test scores of mothers were obtained.

Analysis of Data

Pre-test scores were determined from the first application of the CEES to parents. Post-test scores were calculated for the experiment and control groups after the sessions ended and the scale was reapplied. The data was analyzed via the SPSS 25.0 program. For analysis, descriptive statistics, the Mann-Whitney U test and the Wilcoxon signed ranks test were used.

Results

Table 4 shows pre-test and post-test mean scores of the experiment and control groups, skewness and kurtosis coefficients, and Shapiro-Wilk test p-values. The Shapiro-Wilk test is employed when the number in the study group is less than 50. To ensure normal distribution, the p-value should be larger than .05 (Rockinson-Szapkiw, 2013). The skewness and kurtosis values being in the ± 1 interval is an indicator of normal distribution (George & Mallery, 2019). There were subscales with skewness and kurtosis values varying from -1.71 to 3.35 and the Shapiro-Wilk test p-value was smaller than .05. Non-parametric statistics should be used in situations with less than 30 in the study group (Sedgwick, 2012). Considering the number of participants was fewer than 30, the decision was made to use non-parametric statistical methods in this study.

Table 5 shows Mann Whitney U test results for the scores in the experiment and control groups. As it is observed from the participants in the experiment and control groups, there were no statistically significant differences in the pre-test scores received for the CEES ($z = -.425$, $p > .05$) and GR ($z = -.722$, $p > .05$), CI ($z = -.191$, $p > .05$), KC ($z = -.229$, $p > .05$), DC ($z = -.661$, $p > .05$), and GC ($z = -.500$, $p > .05$) subscales. In this context, before beginning psychoeducation, the experiment and control groups had equivalent scores for the CEES and subscales. When the post-test scores received by experiment and control group participants for the CEES ($z = -3.782$, $p < .05$) and GR ($z = -2.456$, $p < .05$), CI ($z = -3.377$, $p < .05$), and DC ($z = -2.690$, $p < .05$) subscales were examined, a statistically significant difference in favor of the experiment group was identified. This means after psychoeducation, the experiment group had significantly higher scores for the CEES and GR, CI, and DC subscales compared to the control group. The differences in post-test scores for the KC ($z = -1.932$, $p > .05$) and GC ($z = -1.912$, $p > .05$) subscales were not found to be significant.

Table 4. Distribution and normality test results for pre-test and post-test scores of individuals in the experiment (E) and control (C) groups

Variables	Test	N	Mean	SE	SD	Skewness	Kurtosis	Shapiro-Wilk
Pretest – CEES	E	10	48.0	.95	3.00	-.28	-1.33	.24
	C	10	48.5	1.01	3.22	-.82	-.64	.03*
	E	10	60.0	2.04	6.46	.30	-1.71	.17
Posttest- CEES	C	10	48.3	.81	2.56	-.82	.17	.43
	E	10	49.2	1.54	4.88	-.34	-.02	.69
Pretest - GR	C	10	50.5	2.11	6.68	-.38	-1.53	.08*
	E	10	59.8	1.80	5.71	-.01	.59	.36
Posttest- GR	C	10	51.2	2.21	7.01	-.01	-1.23	.58
	E	10	43.8	1.88	5.97	-.41	-.22	.75
Pretest - CI	C	10	42.9	2.54	8.04	-.27	-.97	.22
	E	10	57.0	2.13	6.75	.61	-.82	.45
Posttest- CI	C	10	41.6	2.17	6.88	.11	-.22	.50
	E	10	54.5	3.00	9.48	-.82	.63	.47
Pretest - KC	C	10	56.2	3.14	9.94	.74	.27	.29
	E	10	65.5	3.28	10.39	-.57	.45	.78
Posttest- KC	C	10	56.5	3.29	10.42	.46	-.39	.74
	E	10	47.5	3.00	9.50	-1.39	3.35	.06*
Pretest- DC	C	10	46.5	2.36	7.47	.36	-.15	.85
	E	10	60.0	3.57	11.30	.00	-1.34	.39
Posttest- DC	C	10	45.5	2.52	7.97	.41	-.13	.44
	E	10	42.6	5.37	16.98	.44	-.65	.70
Pretest - GC	C	10	44.6	3.44	10.90	.41	-1.67	.04*
	E	10	56.6	4.12	13.05	.00	.42	.95
Posttest- GC	C	10	44.0	4.12	13.03	-.41	-.52	.55

Note. Child Education Efficiency Scale: CEEFC, Bringing Responsibility: BR, Communication-Interaction: CI, Knowing the Child: KC, Developing the Child: DC, Guiding the Child: GC, * $p < .05$

Table 5. Mann Whitney U test results for scores in the experiment (E) and control (C) groups

Variables	Test	Groups	N	Mean Rank	Sum of Ranks	U	z	p
CEES	Pretest	E	10	9.95	99.50	44.500	-.425	.671
		C	10	11.05	110.50			
	Posttest	E	10	15.50	155.00	.000	-3.782	.000*
		C	10	5.50	55.00			
GR	Pretest	E	10	9.55	95.50	40.500	-.722	.470
		C	10	11.45	114.50			
	Posttest	E	10	13.70	137.00	18.000	-2.456	.014*
		C	10	7.30	73.00			
CI	Pretest	E	10	10.75	107.50	47.500	-.191	.848
		C	10	10.25	102.50			
	Posttest	E	10	14.95	149.50	5.500	-3.377	.001*
		C	10	6.05	60.50			
KC	Pretest	E	10	10.80	108.00	47.000	-.229	.819
		C	10	10.20	102.00			
	Posttest	E	10	13.05	130.50	24.500	-1.932	.053
		C	10	7.95	79.50			
DC	Pretest	E	10	11.35	113.50	41.500	-.661	.509
		C	10	9.65	96.50			
	Posttest	E	10	14.00	140.00	15.000	-2.690	.007*
		C	10	7.00	70.00			
GC	Pretest	E	10	9.85	98.50	43.500	-.500	.617
		C	10	11.15	111.50			
	Posttest	E	10	13.00	130.00	25.000	-1.912	.056
		C	10	8.00	80.00			

Note. Child Education Efficiency Scale: CEEFC, Bringing Responsibility: BR, Communication-Interaction: CI, Knowing the Child: KC, Developing the Child: DC, Guiding the Child: GC, * $p < .05$

Table 6. Wilcoxon signed ranks test results for comparison of pre-test and post-test scores in the experiment group

Variables	Ranks	N	Mean Rank	Sum of Ranks	z	P
CEES	Negative Ranks	0	.00	.00	-2.803	.005*
	Positive Ranks	10	5.50	55.00		
	Ties	0				
GR	Negative Ranks	0	.00	.00	-2.807	.005*
	Positive Ranks	10	5.50	55.00		
	Ties	0				
CI	Negative Ranks	0	.00	.00	-2.807	.005*
	Positive Ranks	10	5.50	55.00		
	Ties	0				
KC	Negative Ranks	1	1.00	1.00	-2.706	.007*
	Positive Ranks	9	6.00	54.00		
	Ties	0				
DC	Negative Ranks	0	.00	.00	-2.552	.011*
	Positive Ranks	8	4.50	36.00		
	Ties	2				
GC	Negative Ranks	1	2.00	2.00	-2.442	.015*
	Positive Ranks	8	5.38	43.00		
	Ties	1				

Note. Child Education Efficiency Scale: CEEFC, Bringing Responsibility: BR, Communication-Interaction CI, Knowing the Child: KC, Developing the Child: DC, Guiding the Child: GC, * $p < .05$

Table 7. Wilcoxon signed ranks test results for comparison of pre-test and post-test scores in the control group

Variables	Ranks	N	Mean Rank	Sum of Ranks	z	P
CEES	Negative Ranks	5	4.40	22.00	-.566	.572
	Positive Ranks	3	4.67	14.00		
	Ties	2				
GR	Negative Ranks	1	1.00	1.00	-1.069	.285
	Positive Ranks	2	2.50	5.00		
	Ties	7				
CI	Negative Ranks	4	3.75	15.00	-1.000	.317
	Positive Ranks	2	3.00	6.00		
	Ties	4				
KC	Negative Ranks	2	2.00	4.00	-.378	.705
	Positive Ranks	2	3.00	6.00		
	Ties	6				
DC	Negative Ranks	2	1.50	3.00	-1.414	.157
	Positive Ranks	0	.00	.00		
	Ties	8				
GC	Negative Ranks	2	3.00	6.00	-.378	.705
	Positive Ranks	2	2.00	4.00		
	Ties	6				

Note. Child Education Efficiency Scale: CEEFC, Bringing Responsibility: BR, Communication-Interaction CI, Knowing the Child: KC, Developing the Child: DC, Guiding the Child: GC

Table 6 presents the Wilcoxon signed ranks test results for the comparison of pre-test and post-test measures for the experiment group. As seen in Table 6, the differences between pretest and posttest scores for the CEES ($z = -2.803$, $p < .05$) and GR ($z = -2.807$, $p < .05$), CI ($z = -2.807$, $p < .05$), KC ($z = -2.706$, $p < .05$), DC ($z = -2.552$, $p < .05$), and GC ($z = -2.442$, $p < .05$) subscales in the experiment group were significant. In other words, after psychoeducation, the scores received by the experiment group for the CEES and subscales were higher by a significant level than scores before psychoeducation.

Table 7 shows the Wilcoxon signed ranks test results for comparison of the pre-test and post-test scores in the control group. As seen in Table 7, there was no significant difference between pre-test and post-test scores for CEES ($z = -.566$, $p > .05$) and GR ($z = -1.069$, $p > .05$), CI ($z = -1.000$, $p > .05$), KC ($z = -.378$, $p > .05$), DC ($z = -1.414$, $p > .05$), and GC ($z = -.378$, $p > .05$) subscales in the control group.

Discussion

The purpose of the current study is to examine the effect of a psychoeducation program for mothers on the child education efficacy perceptions of mothers. Based on findings, the experiment group had significantly higher level of scores for the CEES and GR, CI, KC, DC, and GC subscales after receiving the psychoeducation compared to before the training. Additionally, it was identified that the pre-test and post-test scores for the CEES and GR, CI, KC, DC, and GC subscales did not differ by a significant level in the control group. After psychoeducation, the experiment group had significantly higher scores for CEES and GR, CI, and DC subscales compared to the control group. Additionally, no significant difference was identified for the post-test scores of the GC and KC subscales in the experiment and control groups.

In the study, it was emphasized that the scores for the CEES and GR, CI, KC, DC, and GS subscales of the experiment group after psychoeducation were significantly higher compared to the scores received before psychoeducation. Following the psychoeducation, the experiment group was determined to have statistically significant higher CEES and GR, CI, and DC subscale scores than the control group. Studies in the literature are consistent with the findings of the current research. The findings of both psychoeducation studies and other research based on group psychological counseling, trainings and individual counseling for parents appear to be similar to the results of the current research (Akosmanoğlu & Bedel, 2023; Berge et al., 2010; Bloomfield & Kendall, 2007, 2012; Çabuk & Şahin, 2017; Kim & Chung, 2006; Morawska et al., 2014; Neslitürk & Deniz, 2014; Oh & Cho, 2009; Pehlivan, 2008; Puckering et al., 1994; Roghanchi et al., 2018; Sofronoff & Farbotko, 2002). For example, researchers reported a significant effect of psychoeducation for mothers on the interest, discipline and participation subscales comprising development of self-efficacy perceptions in the experiment group (Akosmanoğlu & Bedel, 2023). Another study by Pehlivan (2008) detected a significant increase in mothers being satisfied with the emotional relationships experienced with their children for those in a psychoeducation experiment group. Similarly, researchers in a study determined that a maternal education program positively affected the communication of mothers with their children (Çabuk & Şahin, 2017). A study by Neslitürk and Deniz (2014) found increases at a significant level for communication skills between mothers and children and taking responsibility after a values training program applied to mothers. The results of a psychoeducation study performed with 21 mothers experiencing serious parenting problems found increases in warmth, sensitivity and effective control (Puckering et al., 1994). Another study by Oh and Cho (2009) reported that mothers in a group receiving counseling had more indecision regarding emotional expression, more adverse communication and more adverse parenting behavior than the comparison group. Researchers dealing with group psychological counseling for mothers and daughters concluded that it was efficient in enhancing the relationship between parents and children, as well as the overall functioning of the family. (Roghanchi et al., 2018). Kim and Chung (2006) indicated that a parent education program completed based on solution-focused therapy, Satir's experiential family therapy and cognitive-behavioral therapy reduced parental stress of mothers, significantly increased the feeling of parental efficacy and positive maternal behavior during mother-child interactions and developed the self-confidence of mothers and maternal attitudes about raising children. In a study by Berge et al. (2010), researchers identified statistically significant improvements in family functioning and undesirable behavior in the child after participants completed a parenting psychoeducation group. Sofronoff and Farbotko (2002) concluded that an intervention program targeting development of parental self-efficacy for management of problematic behavior related to Asperger syndrome was effective. In the study by Bloomfield and Kendall (2012), they found an increase in parenting self-efficacy after participation in a parenting program. Morawska et al. (2014) reported that a short parenting discussion group about regulating the eating times of children increased parenting self-efficacy. A study investigated 53 parenting programs and concluded that the results of data obtained from

parents participating in the programs were promising (Bloomfield & Kendall, 2007).

As seen in current research and in studies consistent with this research, parenting programs are proposed to enhance the short-term psychosocial health of mothers (Barlow et al., 2003). Parenting self-efficacy appears as a key factor encouraging healthy functioning between parents and children (Albanese et al., 2019). Additionally, systematic structured psychoeducation may be assessed as a complementary approach leading to the development of individuals and reducing problems (Srivastava & Panday, 2016). These programs are founded on social learning theory, behavioral and cognitive learning theories and contribute to strengthening the parenting skills of parents (Selinger, 2019; Thompson & Datchi, 2019). Additionally, it is crucial that participants take an active role in the process according to social learning theory (Davis et al., 2017). Parenting interventions based on social learning principles are considered to be critical for the development of children (Mazzucchelli, 2018). The social learning theory and cognitive-behavioral perspectives form the theoretical basis for psychoeducation groups. Behavior and skills can be learned; thus, they may be changed with new behavior and learning is facilitated within a group offering the opportunity to observe and apply new behavior in a safe structured environment (Kuechler & Andrews, 1996). When evaluated within this scope, it is an expected finding that the psychoeducation program for mothers increased the child education efficacy perceptions of mothers.

No significant difference was detected in the post-test scores for the GC and KS subscales in the experiment and control groups in the research. Çekiç (2019) reported that most mothers stated they knew their children in a study performed with Turkish mothers. Research stated that mothers perceive themselves as having a guiding function for their children (San Jose et al., 2022). Mothers may have a tendency to plan and guide their children's future lives in many ways (Wall, 2010). Considering the relevant literature, no significant difference may have been identified between the two groups after psychoeducation as perceptions of mothers about knowing their children well and guiding them are already present.

There are studies that do not overlap with the findings of this research (Sarabi, 2011; Şimşek & Atak, 2021). For example, the study by Şimşek and Atak (2021) found no significant difference in communication functions after psychoeducation for parents with children aged 12-18 years. Şimşek and Atak (2021) found the content of their psychoeducation program on developmental features of the adolescent period mainly and completed it with a video conferencing method. In the current study, the psychoeducation study was completed in the face-to-face environment and applied with interactive participation of group participants based on social learning theory. The literature emphasizes that participation in interactive sessions is important for participants in psychoeducation groups (Covels & Hale, 2005). The differences between these two studies may be due to intense interactive participation in the current study. The study by Sarabi (2011) investigated the effect on the self-efficacy of mothers of children with autism in the preschool period and they concluded that the parental education and skills training program was unable to increase self-efficacy. The study included families with children displaying normal development. The difference between these two studies may be due to parents of children with autism diagnosis experiencing more difficulty in child-raising and

communication with their children compared to parents of children with normal development (Meirsschaut et al., 2010).

Within the scope of this research, the following suggestions are provided for both researchers and field practitioners: In this research, a psychoeducation program was implemented to increase the child education efficacy perceptions of mothers. Parents' increased perception of parenting self-efficacy is an essential factor for the well-being of both themselves and their children (Albanese et al., 2019). Thus, researchers stated that the competence of fathers in child education is notable (Greco & Morris, 2002; Wilson & Prior, 2011). Further studies may be performed to increase the child education efficacy perceptions of fathers. This research is limited to the quantitative data collected. Future studies may be completed with mixed patterns. The psycho-educational study in this research was based on social learning theory. Field practitioners can apply psycho-educational studies developed on the basis of social learning theory to increase parents' self-efficacy perceptions in counseling processes. In addition, seminars organized to increase the perception of self-efficacy for parents can be created in accordance with the basis of social learning theory. Moreover, participants in the group study were not employed and comprised mothers who were preschool and middle school graduates. It appears no consensus has been reached among researchers related to the differentiation of efficacy perceptions with the employment and educational status of mothers (Yeşil et al., 2018, Kuzu & Kısa, 2019, Kwok, & Wong, 2000). This may affect the generalizability of the research.

Author Contributions

All authors were equally involved in all processes of the manuscript. All authors have read and approved the final version of the manuscript.

Ethical Declaration

This study was carried out with the approval decision of Kırşehir Ahi Evran University Social and Human Sciences Scientific Research and Publication Ethics Committee (Protocol No. 2024/03) at the 2024/03 meeting dated 21.03.2024.

Conflict of Interest

“The authors declare that there is no conflict of interest with any institution or person within the scope of the study.”

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Philosophical Inquiry, Critical Thinking and 21st Century Skill Self-Efficacy: A Study with Preservice Teachers

Felsefi Sorgulama, Eleştirel Düşünme ve 21. Yüzyıl Becerileri Öz Yeterliliği: Öğretmen Adayları ile Bir Çalışma

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Abstract: This research aims to examine the effects of philosophical inquiry sessions on self-efficacy perception and critical thinking skills of the 21st century and to determine the opinions of the participants about the sessions. The research was designed according to Single Group Pre-Test - Post-Test" experimental model. "21st Century Skills Efficacy Perceptions Scale" and "Ennis-Weir Written Test of Critical Thinking" were used as quantitative data collection tools, and semi-structured interview form was used as a qualitative data collection tool. It was determined that philosophical inquiry sessions positively affected both 21st-century learning and renewal skills and critical thinking skills. It was determined that it had a positive effect on the critical thinking skills and renewal and learning skills of pre-service teachers. The results of the interviews revealed that philosophical inquiry sessions drew attention to skills such as asking questions, developing different perspectives.

Keywords: Philosophical inquiry, philosophical inquiry session, critical thinking, 21st-century skills, participant views

Öz: Bu araştırma, felsefi sorgulama oturumlarının 21. yüzyıl öz yeterlik algısı ve eleştirel düşünme becerileri üzerindeki etkilerini incelemeyi ve katılımcıların oturumlara ilişkin görüşlerini belirlemeyi amaçlamaktadır. Araştırma deneysel modellerden biri olan "Tek Grup Ön Test - Son Test" modelinde tasarlanmıştır. Nicel veri toplama aracı olarak "21. Yüzyıl Becerileri Yeterlik Algıları Ölçeği" ve "Ennis-Weir Yazılı Eleştirel Düşünme Testi", nitel veri olarak ise yarı yapılandırılmış görüşme formu kullanılmıştır. Felsefi sorgulama oturumlarının hem 21. yüzyıl öğrenme ve yenilenme becerilerini hem de eleştirel düşünme becerilerini olumlu yönde etkilediği tespit edilmiştir. Öğretmen adaylarının eleştirel düşünme becerileri ile yenilenme ve öğrenme becerileri üzerinde olumlu bir etkiye sahip olduğu belirlenmiştir. Görüşme sonuçlarında felsefi sorgulama oturumlarının soru sorma, farklı bakış açıları geliştirme gibi becerilere dikkat çektiği katılımcılar tarafından ifade edilmiştir.

Anahtar Kelimeler: Felsefi sorgulama, felsefi sorgulama oturumu, eleştirel düşünme, 21. yüzyıl becerileri, katılımcı görüşleri

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Introduction

Learning and teaching processes change according to the period in which they live and the foreseen for the future. The trends that emerged toward the end of the 20th century also expect the individuals of the future to have different competencies. In order for existing education systems to meet this need, studies have focused on determining the skills expected from individuals in the 21st century and gaining these skills. 21st century skills classified differently by many institutions and organizations. In P21 (Partnership for 21st Century Skills, 2009) learning and innovative skills (creative thinking, innovation, critical thinking, problem solving, communication, collaboration, learning to learn), information, media and technology skills (information literacy, media literacy, information and communication technology literacy), life and career skills (flexibility, adaptability, entrepreneurship, social and cultural skills, productivity, responsibility, leadership) are classified as three different themes. OECD (2005) defines it as interaction with heterogeneous groups and use of technology tools. In NETS/ISTE (2007), it is defined as creativity and innovation, critical thinking, problem solving and decision making, communication and cooperation, digital citizenship, technological applications and concepts, research and knowledge fluency (Belet -Boyacı and Güner-Özer, 2019). According to Wagner (2008, cited in Eğmir & Erdem, 2021), 21st-century skills are critical thinking and problem-solving

skills, which are defined as survival skills, cooperation, leadership, taking responsibility, entrepreneurship, effective communication, curiosity, and imagination. Kennedy et al. (2016) define 21st-century skills under four headings. These are ways of thinking (creativity, critical thinking, problem-solving, decision-making, learning), ways of working (communication and collaboration), tools necessary for work (information and communication technology, information literacy), and skills for social life (citizenship, life, and career, personal and social responsibility).

Conceptual Framework

When 21st century skills are considered in terms of basic and literacy skills, critical thinking is among these basic skills (Cansoy, 2018). This can be considered to mean that the importance of critical thinking will continue in the future (Çalışkan, 2019). Critical thinking skills is a way of thinking that is logical, reflective and oriented toward deciding what to do and what to believe (Ennis, 1985). Skills such as questioning life, distinguishing between right and wrong, criticizing the increasingly polluted information, claims, and propositions; being honest in their judgment, support their views on sound grounds, enables students to eliminate the dependency on authority by thinking critically (Alkın-Şahin & Tunca, 2015). For this reason, the implementation of 21st-century skills in schools and gaining them for students is an inevitable necessity (Soland et al., 2013). Students can acquire 21st-century skills with teachers who have these skills (Harris

et al., 2009). Raising individuals with critical thinking knowledge, skills, and attitudes is possible with teachers who care about their students gaining critical thinking skills and can apply appropriate methods and techniques in the classroom (Önal & Erişen, 2019). This draws attention to the methods and techniques that can be used to gain both 21st-century skills and critical thinking skills. Starting from the pre-service period, pre-service teachers should gain knowledge, skills, and experience regarding appropriate methods and techniques. Philosophical inquiry is also a method that can be used in the acquisition of these skills. According to Lipman (1995), critical thinking develops conceptualization, reasoning, generalization, and research skills. He also argued that developing critical thinking through interaction with peers is much easier than teaching it technically. Philosophical inquiry is an approach that meets all these criteria. Philosophical inquiry sessions, which first started as "Philosophy with Children", were later named inquiry society and collaborative questioning society and were held with participants from different age groups (Kennedy 1998; Kennedy, 2018; Kennedy & Kennedy, 2011; Lipman, 1995; Sarp, 1987). Philosophical inquiry sessions consisted of ten stages. Relaxation exercises, determining the session rules, presenting the stimulus (story, object, picture, etc.), thinking about the stimulus, asking questions, connecting the questions, choosing the question to be asked for philosophical inquiry, developing thoughts about the question, following each other's thoughts, and encouraging questioning. It can be said that all these stages directly affect thinking and questioning skills (Trickey & Topping, 2004).

Philosophical thinking is a critical/questioning way of thinking. The rules and methods of philosophical studies and the theoretical concerns of philosophy (clarity, systematicity, etc.) are in line with the principles of critical thinking. In other words, the structural features of philosophical thought point to critical thinking tendencies and skills. The fact that doing philosophy requires critical thinking and thinking is a philosophical activity shows that philosophical attitude and critical thinking tendency are coordinated. The fact that individuals characterized as "wise" and "critical thinkers" have the same characteristics is evidence that there is a strong relationship between philosophy and critical thinking (Alkın-Şahin & Tunca, 2015). Philosophical inquiry sessions, which include philosophy and critical thinking, can also be defined as a learning environment that can be carried out with large or small groups. Philosophical inquiry sessions are a learning environment that dates back to Socrates in the context of the philosophy program for children, and Lipman finalized it (Çakır-Kaytancı & Dombaycı, 2020). According to Kennedy and Kennedy (2011), a philosophical inquiry session is comparative as it is an intentional conversational community of a group of people who participate consistently and regularly. According to Lipman (2003, as cited in Striano, 2011), the philosophical inquiry community is a social community. The new cognitive relations are established from the existing cognitive framework through social relations.

While the discussions about whether a philosophical inquiry is a method or not (Kohan & Carvalho, 2019), the philosophical inquiry community also provides the opportunity to raise individuals with basic 21st-century skills in increasingly crowded educational environments (Çakır-Kaytancı & Dombaycı, 2020). Therefore, it is thought that philosophical inquiry practices will provide a learning environment that allows pre-service teachers to develop both

their 21st-century skills and their critical thinking skills. There have been many studies on the 21st-century skills of teacher candidates, their perceptions of these skills (Akbay et al., 2020; Erten, 2020; Orhan Göksün & Kurt, 2017; Özdemir Özden et al., 2018; Varki 2020; Vebrianto et al., 2020) and critical thinking skills (Çolak et al., 2019; Akkaya et al., 2018; Aybek & Aslan, 2017; Deringöl, 2017), and their critical thinking skills (Çolak et al., 2019; Akkaya, Worker, & Susar Kırmızı, 2018; Aybek & Aslan, 2017; Deringöl, 2017). However, research on philosophical inquiry is mostly conducted in preschool and young children (Gasparatou & Kampeza, 2012; Güven, 2019; Işıklar, 2019; Karadağ & Yıldız Demirtaş, 2018; Yıldız-Demirtaş et al., 2018).

However, there is no study on the contributions of philosophical inquiry sessions that include both 21st-century skills and critical thinking skills to pre-service teachers. It is thought that philosophical inquiry practices will provide a learning environment that allows pre-service teachers to develop both 21st-century skills and critical thinking skills and is expected to contribute to the field. This contribution is important because 21st-century learner and teacher skills, as explained above, include skills such as critical analytical thinking, lifelong learning, and being open to innovations. It is important for pre-service teachers to have these skills due to their roles as learners and teachers. Therefore, the main purpose of this study is to examine the effects of philosophical inquiry sessions on 21st-century skills efficacy perceptions and critical thinking skills in the context of pre-service teachers' views. In line with this main purpose, answers to the following questions will be sought.

In the context of philosophical inquiry sessions;

1. Is there a statistically significant difference between pretest and posttest scores of prospective teachers regarding their 21st-century skills proficiency perceptions?
2. Is there a statistically significant difference between the Ennis-Weir Critical Thinking Test pretest and posttest scores of prospective teachers?
3. What are the views of prospective teachers on philosophical inquiry and the philosophical inquiry sessions?

Method

Research Model

In this study, the effects of philosophical inquiry sessions on pre-service teachers' 21st-century skills proficiency perceptions, and critical thinking skills were examined. The research was designed in the "Single Group Pre-Test - Post-Test" model, which is one of the experimental models. This model does not include a control group, and the data collection tools are applied only to the experimental group before and after the experimental procedure (Cohen & Manion, 1998). At the end of the experimental process, pre-service teachers were asked to evaluate the philosophical inquiry sessions. The pretest and posttest scores of the qualitative and quantitative data collection tools were analyzed, and a focus group interview was conducted to those who had the lowest and highest average score and showed the highest score increase/decrease. Thus, research includes qualitative data collection and analysis steps with a quantitative priority. In this context, the research model can also be defined as a mixed method. The mixed method is a research design in which

quantitative and qualitative data collection and data analysis methods are used together (Creswell, 2003).

Study Group

The main study group of the research consists of 17 teacher candidates (13F, 4M) studying at an education faculty in Central Anatolia in the spring term of the 2020-2021 academic year. To determine the working group, announcements were first made via WhatsApp and e-mail. The purpose of the research, the steps of the procedure, the anticipated duration, and the expectations from the participants were announced in all detail. In line with the feedback, an online introductory meeting was held with the interested parties. Upon informing participants, consent was obtained from the volunteers who wanted to take part in the study. Although they attended the introductory meeting and completed the pre-tests of the quantitative data collection tools, six pre-service teachers who did not attend enough sessions in the process were excluded from the study group. Information on the study group is given in Table 1.

Table 1. Information on the study group

Demographic Characteristics		f
Grade Level	Second Grade	9
	Third Grade	8
Programs	Turkish Language Teaching	4
	Primary School Mathematics Teaching	5
	Psychological Counseling and Guidance	8

The age range of the participants is 18-21 ($X=18.9$). Participants study in the second grade ($n=9$) and third grade ($n=8$) in Turkish language teaching (4), primary school mathematics teaching (5), and psychological counseling and guidance (8) programs.

In the study, after the post-tests of the quantitative data collection tools were applied, participants were determined for focus group interviews to obtain their views on the sessions through outlier sampling. To determine the participants, the pretest-posttest mean scores were examined. A focus group discussion was conducted with nine pre-service teachers (5F, 4M) who had the lowest, highest and most increasing or decreasing mean scores on philosophical inquiry sessions.

Data Collection Tools

Quantitative and qualitative data collection tools were used together in the research. "21st-century Skills Efficacy Perceptions Scale for Pre-service Teachers" and "Ennis-Weir Written Test of Critical Thinking (E-WCTET)" were used as quantitative data collection tools, and semi-structured interview form was used as a qualitative data collection. 21st-century Skills Proficiency Perceptions Scale for Teacher Candidates developed by Anagün et al., (2016) consists of 42 items and three sub-dimensions (Learning and Renewal Skills, Life and Career Skills, Knowledge, Media, and Technology). In the scale prepared according to the 5 - point Likert type scale model, the degree of agreement for each statement was determined as "never", "rarely", "sometimes", "often" and "always". Because of the reliability analyses performed, the Cronbach alpha value of the whole scale was .889, and the Cronbach alpha coefficients on the basis of the factors were 0.845 for factor 1, 0.826 for Factor 2, and 0.810 for Factor 3 (Anagün et al., 2016). In this study, the internal consistency

coefficients for the sum of the scale and its sub dimensions varied between .85 and .88.

The Ennis-Weir Critical Thinking Written Test (E-WCTET), which was developed by Ennis and Weir (1985) and measures the level of critical thinking (skill), is the evaluation of an argument put forward by a person, in other words, criticizing that argument in various dimensions. The adaptation study of the 9-paragraph measurement tool, which is used to criticize an 8-paragraph text and write a new text, was conducted by Aybek (2006). The highest score that can be obtained from E-WCTET is 29. In the pilot study with 57 students, the "Pearson Product Moment Correlation" coefficient between the scores of the participants was found to be .95.

In this study, the Pearson Product Moment Correlation coefficient between the scores made separately by two researchers was calculated as .72.

Semi-Structured Interview Form was prepared by the researchers to determine the opinions of the participants about the philosophical inquiry sessions. While preparing the interview, attention was paid to the fact that the questions were easy to understand, focused questions were included, open-ended questions were included to avoid redirection. There was no more than one question in a question, and alternative and probe questions were available. The questions were arranged logically. The draft interview form was finalized by taking into account the opinions of two lecturers who are experts in their fields and the pilot interviews with two teacher candidates who participated in the sessions. The interview form, consisting of seven basic and five probe questions. It was applied to the participants as a focus group interview (online) after the philosophical inquiry sessions ended. The opinions of the participants who had connection problems from time to time during the interview were consulted again afterward.

Data Collection Process

The philosophical inquiry sessions implemented within the scope of the research were carried out for a total of 12 weeks, starting from the spring semester of the 2020-2021 academic year. The days and hours of the sessions held between 16.05.2021 and 01.08.2021 were determined according to the convenience of the majority of the participants. However, the number of participants in the sessions varied because the sessions were held online, which brought about connection problems. Before starting the philosophical inquiry sessions, an introductory meeting was held on 08.05.2021, and information was given about the process. On 12.05.2021, a pilot philosophical inquiry session was held and then pre-tests were applied. Afterward, 12 philosophical questioning sessions were held through stimuli consisting of nine reading passages and three videos, starting with the actual practices. The stimuli are given in Table 2.

Sessions were recorded with the permission and knowledge of the participants. After the sessions were completed, posttests were administered. According to the results of the analysis, the day and time of the focus group meeting were determined and carried out by contacting the participants who will be in the second study group. Qualitative data were collected through the interview, which lasted for a total of 127 minutes.

Table 2. List of stimuli used in sessions

Session Date	The stimulus used
16.05.2021	The ark of Theseus, <i>Worley, P. (2019). Philosophy Machine A Roadmap: How to Make Philosophy for Children (P4C)?, Parachute Book .</i>
19.05.2021	The Little Mouse and the Red Wall, <i>Teckentrup, B. (2020). Little Mouse and the Red Wall, Beta Kids.</i>
22.05.2021	Stranger Things Shop, <i>Worley, P. (2019). Philosophy Machine A Roadmap: How to Make Philosophy for Kids (P4C)?, Parachute Book</i>
29.05.2021	Bandit, https://www.youtube.com/watch?v=j4Iqz6dEZbk
06.06.2021	Cardboard Box, https://www.youtube.com/watch?v=duRnRIqZnDA
08.06.2021	Happy Prisoner, <i>Worley, P. (2019). Philosophy Machine A Roadmap: How to Make Philosophy for Kids (P4C)?, Parachute Book</i>
07.07.2021	Socrates' Defense, <i>Plato (2016), Socrates' Defense, İşbank Culture Publications - Hasan Ali Yücel Classics Series</i>
11.07.2021	Being and Man, <i>Montaigne, M. (2019). Essays, Türkiye İş Bankası Cultural Publications.</i>
13.07.2021	Frederick, <i>Lionni, L. (2019), Apple Book.</i>
18.07.2021	Scorpion and Frog, <i>Worley, P. (2019). Philosophy Machine A Roadmap: How to Make Philosophy for Kids (P4C)?, Parachute Book</i>
29.07.2021	Balance, https://www.youtube.com/watch?v=PADVHR-wOs
01.08.2021	Utopia, <i>More, T. (2014). Ütopia, İşbank Cultural Publications - Hasan Ali Yücel Classics Series (2014).</i>

Analysis of Data

Analysis of Quantitative Data

First, the Single Sample Kolmogorov-Smirnov (KS) Test was used to test whether the quantitative data fits a certain distribution, and it was determined that the data showed normal distribution (KS(Z) pretest =0.749 $p>0.05$; KS(Z) posttest =1.116; $p>0.05$). Descriptive statistical methods and Paired Sample t- Test were used in the analysis of the data. The level of significance was accepted as .05 in the analysis made.

Analysis of Qualitative Data

Content analysis was used in the analysis of interview data. The online meeting recordings were transcribed and a total of 32 pages of raw data were obtained. The expressions in the raw data set were combined under codes and themes and explained, and common meanings or relationships were sought (Yıldırım & Şimşek, 2018). Codes and themes were determined separately by both researchers, and the coefficient of the

agreement was calculated as .85, which is considered as an acceptable value (Miles & Huberman (1994). The generated codes and themes were presented by quoting directly from the statements of the participants.

Validity and Reliability of the Research

To ensure external validity in the research, the research model, data collection tools, data collection process, data analysis and interpretation, and arrangement of the findings were attempted defined in detail. In the reporting phase of the research, direct quotations were frequently made from the views of the participants. To ensure internal validity in the research, data diversity was made. In this context, quantitative data collection tools and qualitative data collection tools were used together for data diversity. A data collection tool in open-ended question form was used for critical thinking skills, and a quantitative measurement tool was used for competencies related to 21st-century skills. Data on philosophy inquiry sessions were collected qualitatively by conducting focus group interviews. In the analysis of the data, qualitative and quantitative analysis methods were used together. Again, to ensure internal validity, the research process, the findings, and the findings of the literature were frequently compared and the consistency of the research was examined.

To ensure the internal reliability of the research, all the sessions and the focus group discussion were recorded with the knowledge and consent of the participants. Records were coded and compared by both researchers at different time. Partners and non-partners were examined one by one, and a consensus was reached. Similarly, critical thinking skills written test texts were coded by the researcher and a different researcher who is an expert in the field. Reliability was attempted be ensured by calculating the coefficient of agreement on a randomly selected form. Finally, the raw data collected within the scope of the research were stored as it is for possible examination.

The research was approved by the ethical principles of a state University Social and Human Sciences Scientific Research and Publication Ethics Committee with the decision dated 02.06.2021 and numbered 68282350 /G10.

Findings

Findings Related to First Research Problem

Table 3 shows the results of the Paired Samples t-Test, which was applied to test whether there is a significant difference in the self-efficacy perceptions of teacher candidates regarding 21st-century skills before and after the philosophical inquiry sessions.

When the analysis results are examined, the pretest and posttest scores of the participants obtained from the overall scale ($t_{15}=1.99, p>.05$), the pretest and posttest scores obtained from the Life and Career Skills subscale ($t_{15}=0.41, p>.05$), and the pretest and posttest scores ($t_{15}=1.63, p>.05$) obtained from the Information, Media and Technology Skills subscale, it is seen that there is no significant difference. It was determined that the posttest scores obtained from the Learning and Renewal Skills subscale differed significantly from the pretest scores ($t_{15}=2.32, p<.05$). Accordingly, the subscale score, which was $X=59.69$ before the experimental procedure, increased to $X=64.44$ after the sessions.

Table 3. Paired Samples t-Test results regarding the 21st-century skills proficiency perceptions of teacher candidates

Variable	Category	x	N	ss	sd	t	p
21st-Century Skills proficiency Scale (Total)	Pretest	168.25	16	19.97	15	1.99	.064
	posttest	175.25	16	15.32			
Learning and Renewal Skills Sub-Scale (16 items)	Pretest	59.69	16	9.31	15	2.32	.035*
	posttest	64.44	16	7.11			
Life and Career Skills Sub-Scale (18 items)	Pretest	75.38	16	8.70	15	0.41	.688
	posttest	75.94	16	7.46			
Information, Media, and Communication Skills Sub-Scale (8 items)	Pretest	33.19	16	4.59	15	1.63	.124
	posttest	34.89	16	3.89			

* $p < .05$

Table 4. Paired Samples t-Test results on the critical-thinking skills of pre-service teachers

Ennis-Weir Critical Thinking Written Test	N	x	ss	sd	t	p
Pretest	16	7.65	5.29	15	2.18	.046*
posttest	16	9.84	5.88			

* $p < .05$

Findings Related to Second Research Problem

The results of the Paired Samples t-Test, which was applied to test whether the critical thinking skills of pre-service teachers differed significantly before and after the philosophical inquiry sessions, are given in Table 4.

It is seen that there is a significant difference ($p > 0.05$) between the pretest and posttest scores of the pre-service teachers from the Ennis-Weir Critical Thinking Written Test ($t_{15} = 2.18, p < .05$). When the pre-service teachers' averages before and after the experimental procedure are examined, it is seen that the critical thinking skill scores of $X = 7.65$ increased to $X = 9.84$ after the philosophical inquiry sessions.

Findings Related to Third Research Problem

Within the scope of the third sub-problem of the research, the participants were asked to evaluate the philosophical inquiry sessions. The results obtained from the interviews conducted for this purpose, focusing on the opinions of the participants on the philosophical inquiry sessions, philosophical inquiry, expectations from the sessions, session evaluation, and suggestions about the session.

Findings on Philosophical Inquiry

As a result of the analysis of the interview data, the theme of philosophical inquiry was divided into three sub-themes: definition, asking questions, and philosophical questions. The codes determined for these sub-themes are given in Table 5.

Table 5. Sub-theme and code table for the theme of philosophical inquiry

Theme	Sub-Theme	Code
Philosophical Inquiry	Definition	Argument
		Thinking
		Deep inquiry
		non-judgmental / unprejudiced environment
	Asking question	Freedom
		Development
		Interpretation
	Philosophical question	No only one correct answer / with multiple correct answers
		Deriving a question from a question

When Table 5 is examined, it is seen that the definitions of philosophical inquiry of the participants' views are combined in the codes of discussion, thinking, deep inquiry, and non-judgmental environment. Participants tried defining the concept of philosophical inquiry based on their experiences and during these definitions the ability to ask questions and the distinction between questions and philosophical questions emerged. In general, the participants defined philosophical inquiry as thinking deeply, trying to understand, examining, and analyzing. Trying to understand without judging, and questioning thoughts without looking for right or wrong are the other expressions used by the participants when describing the philosophical inquiry process. Examples of participant views are as follows:

“Even though philosophical questioning may seem like a big thing when we look at it, I think it is something everyone should do. Because most of the time we live life very straight and sometimes we live like robots without thinking about anything. That's why I think philosophical inquiry has an important place in our lives. (P2)”

“I can actually explain it as a way of thinking. Thinking more about a certain topic than ever before. Learning to think. Philosophically, I define it as questioning, being able to explain an event from different perspectives and looking at it from a different perspective. (P6)”

“I think the philosophical inquiry is a deeper inquiry. Because in these sessions, we could move toward different branches than anything else. Because of this aspect, I think it has a deeper meaning and a deep way of thinking. I think there is no such definitive answer in philosophical inquiry, so there is a deeper style of inquiry. (P15)”

“I think it is something that every person should do for their life, and as our friend said here, it is important to question each other's mistakes or in themselves to see their shortcomings. That's why I think the philosophical inquiry is important. That is to say, I think the philosophical inquiry is something that every person should do, not only for us but also to realize a mistake, deficiency, or a situation in any field in life or elsewhere (P17)”

“It is a beautiful thing that there is no right or wrong, yes or no, in philosophical inquiry, in philosophy. Because there are many people whose lives are only black or only white and who have certain judgments. But I also think that nothing is certain. Philosophical inquiry is good in that sense. Even people who have not acquired it can acquire this skill through philosophical inquiry. It can be

understood and understood in the process that there can be no definite right or wrong. And in the same way, in an environment where no one judges anyone, because of their opinion “oh what a stupid idea” or “what a great idea”, “oh yes definitely like that or not”, the absence of these, knowing that they will not be judged by other good things. One of its aspects is philosophical inquiry. I think it is beautiful because it is far from judgments and definite lines. I think it adds something to everyone. (P10)”

“Philosophical questioning...we are not looking for the (correct) answer, nor are we looking for the right or wrong. This is what I learned the most. There is no right or wrong in philosophy. Everyone has their own opinion. Everyone is right in their way. (P1)”

Philosophical inquiry sessions proceed in the axis of a discussion question determined by the group based on the stimulus presented. In this context, the participants also made explanations on questions and asked questions while interpreting philosophical inquiry. Based on their experiences during the session, they expressed whether they could ask questions and their perspectives on asking questions. When the expressions were examined, it was observed that the sub-theme of asking questions consisted of the codes of freedom, development, and meaning. Direct quotations from the participants' views on these codes are given below.

“Asking questions reminds me of progress. Because the thing called development occurs when something is questioned, something creates a question mark in the mind. So this is the story of most inventions that exist now, there is questioning, asking, and wondering. That's why asking questions reminds me of progress. So I think there is a compelling connection between them. (P17)”

“I think asking questions helps discover and understand things. And sometimes it expresses my meaning. Making sense of some things in my mind by asking questions. The question I ask allows me to make sense of it both with the answers I gave in my own mind and the answers I received from the other party. (P2)”

“... this is how I look at an event, he looks at it from a completely different place, I think he was asking such a question, he had the thought. Others were asking irrelevant questions. I did not understand the questions and I could not make sense of them. But it may seem irrelevant to me. It made me think, I am looking from here, but it means how are others looking at it, it made me think that they are asking such a question. There is no judgment, I was just trying to reconcile the thought I had with the thought that my friends asked. I was trying to find its relevance to the topic, which got me thinking. (P5)”

P10 said, “Asking questions means freedom for me first. It means to be able to think, to show what one thinks, and to show that not everything will be accepted unconditionally. Apart from these, I do not remember which of our friends gave examples, but in any system, we are in about interrogation; (this may be a small class, or it may extend to the country we live in) asking questions tells me being able to see the faults in every system, and to express that he/she sees this. I am here and I do not unconditionally accept everything you do as it is, I can ask, why did this happen?”. When the views of the participants are examined in general, it can be said that there is a general awareness about asking questions and that the participants have a positive attitude toward asking questions.

It was also examined by the participants whether there was a difference between the philosophical question and other

types of questions. Nearly all the participants defined the philosophical question as “a question that does not have a single correct answer and that has justifications to defend according to different points of view”. In this context, in the sub-theme of the philosophical question, the views of the participants were united in the codes that did not have a definite correct answer and that derived a question from the question. Examples of participant views on the codes are as follows:

“I think of it as something that does not have a definite result, has no end, can be thought from every aspect and can show all kinds of differences. In other words, it is not a normal questioning, but a much deeper, much more meaningful one. (P15)”

“The philosophical question, I think, is philosophy itself; an act of thinking and questioning. Therefore, any question that can make us question an event, a fact, or a situation is a philosophical question in my opinion. The existence of the event, the situation, the fact, the reason for its occurrence, the reason for its existence, why it is there or why it is like this? I think every question that can be asked through an inquiry is a philosophical question. (P17)”

“I think the questions that have endless answers or no answers, that the question we ask is more important than the answer, are philosophical questions. (P5)”

“to investigate an event in depth.. We can also create new questions in philosophical questions or find different answers. (P2)”

“I think philosophical questions can be more meaningful questions about life. If will to distinguish between the two. It sounds like a more inquiring, more concise, more self-encompassing question style. (P6)”

When the views of the participants are examined in general, it can be said that the distinction between factual questions / philosophical questions can be made, but philosophical questions are stereotyped with endless loop / questions with no definite answer. The fact that philosophy is generally defined as “to be on the road, to be in an endless search” can be thought to cause this perspective.

Findings Related to The Expectations from Sessions

Participants were asked what their expectations were from the philosophy inquiry sessions and whether these expectations were met. Participant views were gathered under the sub-themes of opinions on the session process, the need for socialization due to the pandemic, and the need for personal development. The codes associated with these sub-themes are given in Table 6 below.

Table 6. Sub-Theme and Code Table for the Theme “Expectations from Sessions”

Theme	Sub-Theme	Code
Expectations from Sessions	Session Process	Discussion environment Different perceptions Interest in philosophy
	Socialization	Need to speak Good time
	Self-improvement	Overcome the excitement Thinking skill

When Table 6 is examined, it is seen that the reasons for participating in the session process are being interested in philosophy, wondering about different perspectives, and wanting to experience the discussion environment. Examples of participant opinions that created the aforementioned codes are given below.

"..as different perspectives, I got involved in order to notice them. (P15)"

"Sometimes, there were parts that I found really irrelevant. Because sometimes we went too far. I never thought about it, for example, while watching that video. But later on, when I looked at them, it seemed as if they actually had consent. Sometimes, there were very nice multi-point shooting questions. But sometimes the questions that I liked very much did not work out, I said we can discuss this too. It was enjoyable overall. I think we suggested different good things. (P6)"

"..we thought it could add a function to us. I wanted to participate because we think that we can look at things from other dimensions in a philosophical sense and that this application can give us this. (P17)"

"My friends said that we were arguing among ourselves. I was already good with philosophy, and I was a person who liked this kind of talk. After that, I said I'll come too then. That's how it evolved. That's how I got involved. (P5)"

The sub-theme of the need for socialization was also formed under the theme of the expectations of the participants from the philosophy questioning sessions. The sessions held online during the full closure periods experienced during the pandemic process created an opportunity for the participants to be included in a group that came together for a common purpose. When examined in this context, the participants evaluated the sessions as a means of having a pleasant time and speaking / being together with peers. Examples of expressions related to the codes obtained are as follows:

"There was not much opportunity to socialize in the distance education process anyway. Like everyone else, I was bored too.. I did not come thinking that I would learn any knowledge. So I just came to enjoy. (P10)"

"I was alone at home so much that I needed to talk. I did not miss this opportunity either. It was better that way. Something different happened when we closed in that house, at least for me. It was something to pass the time. My time passed, it was better, and it was more enjoyable and productive. (P13)"

Participants also consider philosophical inquiry sessions as a means of personal development. It has been seen that they aim to gain benefits such as expressing their thoughts properly in front of people they have just met, and organizing their feelings and thoughts, with sessions to be conducted on different topics. Examples of direct quotations regarding the codes of overcoming excitement and thinking skills arising from the aforementioned expressions are given below.

"Frankly, I'm a very excited person and I'm the type who can get very excited when I talk like that. That's why I said that I would have broken a little bit and - I'm having a little trouble thinking about things in all their dimensions - maybe I would have broken that too. (P2)"

"Before I started these sessions, I was gaining academic knowledge on the development of thinking skills. So, I was interested in it. Afterwards, our teacher recommended us to attend this session. Despite my willingness to do so, I thought that we could only do these thinking skills through

such mutual sessions and discussions. I thought it could happen like this. (P4)"

Findings Regarding the Session Evaluation

While the philosophical inquiry sessions were held, the session was evaluated in general after each completed session. Additionally, in the interviews held after the completion of the experimental process of the research (12-session process), the participants were again asked to make evaluations about the sessions. While evaluating the process, the participants first emphasized their thoughts on the process and then the benefits they gained in the process. Finally, they presented their criticisms of the sessions by thinking about how it could be better. The themes, sub-themes, and codes that emerged after the analysis of participant opinions are given in Table 7.

Table 7. Sub-Theme and Code Table for the Session Evaluation Theme

Theme	Sub-Theme	Code
Session Evaluation	Process	Feeling
		Working
		Questions
	Contribution	Different perspective
		Daily life
	Criticism	Development
	Criticism of the sessions	
	Criticism of the participants	
	Personal criticism	

Under the sub-theme of the evaluation of the session process, the participants' feelings during the sessions, their views on the way the sessions were conducted, and the question codes created in the sessions were revealed. Participants preferred to convey their experiences starting from the emotion they felt. Examples of these views are as follows:

"I actually enjoyed it overall. Generally, I can say that it is pleasure based on the basis of emotion. It was a pleasant conversation. I mean, it was very enjoyable for me to come together with different mindsets at the point of analyzing people and to create such a philosophical environment for questioning. (P5)"

"It was a productive time for me and it made me feel productive. That's why it was good. I want to participate again. It is nice to learn about different views on a subject, as the reason is also different, it is nice to listen to people and understand their points of view. (P15)"

"At the end of the sessions, the general evaluation, re-speaking and reviewing of our shortcomings or the right things we have done was also good, in summary form. And it felt good. I enjoyed it, and I felt that I was productive. I'm not here to learn anything. But I went to learn something. So, I want to join again. For example, we all think of philosophy very abstractly, but even when talking about these abstract issues, we always gave examples to support our views. I think it was good in terms of explaining abstract things by concretizing. Supporting our views, how can we refute the other side's view, etc. I think that it is effective on these issues as well. (P10)"

“What I liked most was that we were discussing opposing ideas a lot. For example, some of our friends were saying something different, then we were trying to explain something different to him by giving an example. And we were falling into a paradox or something, I wonder if it was so or not. These were the parts that raised my mood the most. Apart from that, it was nice to ask questions, and it was also enjoyable to think about him. But in general, discussing opposing views was what got me more moody. (P6)”

“Our questions varied in our sessions. In particular, I think this was the most beneficial for us. In terms of asking philosophical questions, if we open it now and watch it together, I think the way every person asks questions from the first recording to the last recording or the way they approach the event we are examining has changed. Especially when we look at the first video, we tried learning these questioning techniques and talk about the subject in our first meeting. I think the questions people ask change as they get involved in philosophy, and we have changed too. That's why I think that the biggest benefit of this activity is this activity. He's made good progress, so I will to wrap it up in one sentence. (P17)”

“I think it made me open up more. It made me feel comfortable in terms of asking questions and speaking. (P2)”

“Sessions have been very challenging for me at times. So, in some sessions, I really didn't know what to think or what to answer. Sometimes, there were things that I always wanted to talk about. Plus, I said that I was very surprised, for example, how did we get this out of this subject? The things I said happened. So, our conclusions were surprising. I said, for example, how did we deduce this from the video we watched or the thing we read? I know I must think multidimensional. And I realize that I'm a little lacking in that. So I'm sure this will add something to me. (P4)”

When the quotations above are examined, it is seen that the participants thought that they had a pleasant and productive time in the philosophical inquiry sessions and that they had positive opinions about the operation of the session process. After the participants evaluated the process, they evaluated the gains of the philosophical inquiry sessions. These views constitute the sub-theme of contribution, and different perspectives are united in the codes of transfer to daily life and personal development. Examples of participant views on these codes are presented below.

“A topic is clogged, but going on that topic to see if it is more enriching, but it is clogged and repeating on the same topic, returning there, looking for something. (P15)”

“Before there were these sessions, for example, when I looked at a person, when something happened, I used to think one-sidedly. I never thought of other aspects. After these sessions, maybe because of my desire to improve myself, I started to think about more aspects. This happened, but maybe there is another side to this. These meetings gave me such advantages (P13)”

“Actually, I think about a subject, yes, rather than thinking that, yes, he thought so too. Actually, from his perspective, this could be the case. This is a logical view, so I can say that I am more inclined to understand other people's thoughts. I could see more from their perspective. In fact, when you look at it according to him, yes, this is logical on

this side, but it seems like there may be illogicality on this side. (P15)”

“Before I attended the sessions, it was already my specialty, to ask why it is so, to go on top of it. Everything could be discussed, in my opinion. The thing that changed after the philosophical sessions were to want the people in front of me to acquire it as well. I strived for this. For example, my friend and I are discussing a topic, a non-philosophical one from normal daily life. While discussing that subject, I say “but why this, but why this way”, I even create the antithesis there to my own opinion. According to her, what I'm doing is contradicting myself, inconsistent behavior. But I say you should question this and that, I don't think these are true, you should also question them. No, I'm sure it's true, don't blame me, I've encountered things like. My resistance dropped, and it collapsed a little. But that's how it affected my daily life for a while. Because it was so beautiful that in those sessions, I think everyone was completely open to questioning. In other words, there were some of our friends who remained constant in their ideas. But in general, everyone was open to anything. So I wanted this environment to be everywhere. (P10)”

“Generally, I think these activities are activities that meet the mental needs of people. For example, we approached the texts critically. During these sessions, I realized a need. I realized that I lacked to defend my own perspective more strongly. (P4)”

“How well we can convey what we know or what we think. How big is our vocabulary or how is our accent? In fact, these are also developing in a way besides questioning, philosophical questioning. In this respect, I think it is so valuable both in terms of learning for questioning and in terms of improving ourselves. (P5)”

“What changed in my life was observation. So, I seriously felt it. So, I started to observe the movements of the people I saw around me and question this. For example, a person comes, why he is so tired? What could have bothered him? or, for example, I started to examine people in public transport. I started to observe all the movements he made, his posture there, and the movements he made after sitting down (P17).”

“For example, if I am watching a movie, it has become more difficult for me to find the main idea of that movie and shoot it. Because I'm digging deeper, I also think the opposite of what came to my mind. It's as if there is someone in front of me saying the opposite of what I said. This is what happens in philosophy too, opinions and opposing views. It happened that way. So that's how it started. That's how the sessions changed my next life. I'm trying to go deeper. (P1)”

When the quotations above are examined, it is seen that the participants make a conscious effort to transfer the experiences they gained from the sessions to their daily lives. All the participants describe the sessions as contributing to them and can give examples of this contribution.

The final stage of the evaluation of the session process is the criticism. In the statements of the participants, criticism of the process, criticism of other participants, and self-criticism about their own performances were encountered. Criticisms are often related to not being able to produce philosophical questions, thinking one-dimensionally while producing questions, not being able to embody the idea, not being able to give examples, and equal participation. Participant 1 said, “For example, we sometimes got stuck in the sessions. Either he

didn't change his mind or his perspective was always the same. That is, while I was looking from here and my friend was looking from there, I was looking from where he was looking and trying to understand and not talking from there. I was saying that here again, he was saying that there again. I do know if empathy was also effective. I guess we couldn't say that he was right in these aspects. We were stuck there. Did we get over it, we just got over it. I mean, it's not much, but I think we did it anyway. (Is it possible to transcend?) This is possible. As I said, we can change the question a little bit. Well, we can change the question by saying, "Can it be like this?" We should not look at the issues as I have just explained. If he stops looking, the discussion can develop again. I was one of those who stayed and watched. You know, when something happens to a person, he cannot say that I am wrong or that you are telling the truth. I have also had some, but as I said at the beginning, I was thinking after the sessions were over. So, it actually happened like this. You know, when someone said something, it was also tried refuting it. I wasn't/can't accept that my own thought was rotten. I mean, I was saying yes inwardly, but I couldn't say yes in public in the session. Once it came out of my mouth. But when the session was over, I was rethinking everything, that's when I changed my thoughts, and I saw that what you said on that side was true. I could see that there were mistakes in what I said. (P1)", he examined the whole process in terms of himself and other participants. When all expressions are examined in general, it can be said that the participants evaluated the process, other participants, and themselves objectively. The point that almost all participants agree on is the difficulties experienced in producing questions. Examples of expressions related to criticism are given below.

"I think sometimes I ask too straight questions. So I think I'm asking a direct question without thinking deeply. (P2)"

"I also want to do self-criticism. In some sessions, I approached monotony in the discussions. I approached from a single dimension, for example, from the cognitive dimension. According to my friends, I remained a bit abstract in the discussion. I could not participate in their discussions. That's why my questions weren't answered either. So disconnected from friends (P4)"

"I would like everyone to participate equally and a lot. I mean, there were times when I hesitated to speak because of that, there were times when I was hesitant. Because there were moments when I felt tired of my own voice. You really tried to help with this. You named those who did not speak and added them. But I also wish there was more interaction. I would like everyone's participation percentage to be above 60 or above 70. (P10)"

"Sometimes—I'll say this for myself—I had a hard time asking questions. This bothered me a lot, for myself. I'm criticizing myself. That's why I had such a hard time there. Sometimes we asked questions, but I could not answer. I couldn't find an answer to give. I guess I didn't think too much. So this is my shortcoming. (P2)"

Discussions

The dual role of teachers, arising from being both subjects and objects in educational transformations, makes teacher training a growing and increasingly challenging field. It is thought that teachers will act as a catalyst for the effective acquisition of 21st-century skills. This makes it necessary for teacher education to focus on educating teachers who have these skills and can teach them. Based on this idea, this study examined the effects of philosophical inquiry sessions on pre-service

teachers' 21st-century skills and critical thinking skills. The quantitative and qualitative findings of the research showed that philosophical inquiry positively affects both 21st-century learning and renewal skills and critical thinking skills. Based on the experimental process, which was carried out in the form of philosophical inquiry sessions in which 12 different stimuli were used, it was determined that it had a positive effect on the critical thinking skills and renewal and learning skills of pre-service teachers. There was a significant difference in favor of the posttest between the participants' Ennis Weir critical thinking skills written test pretest and posttest scores, and between the 21st-century skills scale renewal and learning skills subscale pretest-posttest scores. In the results of the interviews with the pre-service teachers, it was stated by the participants that philosophical inquiry sessions drew attention to skills such as asking questions, developing different perspectives and understanding the opposing view.

In the study, an increase was observed in the scores of pre-service teachers regarding their critical thinking skills after the philosophical inquiry sessions. According to Çalışkan (2019), it is important to know the methods of philosophy, to have philosophical awareness, and to live philosophy to be a critical thinker. To live philosophy, it is necessary to have critical thinking skills (Çalışkan, 2019). Philosophy emerges through clarifying the concepts, revealing the relations between the concepts, grounding and testing the ideas, and examining the logical structure of the reasoning (Cevizci, 2010). In this context, philosophizing is possible by having critical thinking skills, and being able to think critically is possible by philosophizing (Çalışkan, 2019). According to Alkın-Şahin and Tunca (2015), the teacher needs to have knowledge and awareness of the elements of philosophy and the characteristics of philosophical attitude and thought to gain critical thinking in teaching. A teacher who wants to gain critical thinking skills is expected to encourage students who think differently and to listen without prejudice. Using materials that require multidimensional thinking and looking from different angles, it is requested to include activities that require questioning. It is also asked to direct students to consistency in thought, participation in discussion, and clarification of information, concepts, ideas, and thoughts. It is expected to encourage the questioning of the accuracy and reliability of information (Alkın-Şahin & Gözütok, 2013). Scholl et al. (2014) found that philosophical inquiry sessions improved teachers' ability to select and apply pedagogical methods in their experimental study with the participation of 59 classroom teachers. Similarly, in Nichols et al. (2015)'s experimental research with the participation of 18 teachers and 227 students on science teaching using philosophical inquiry, it was determined that students develop advanced inquiry skills and inquiry and reasoning behaviors such as developing ideas, exploring alternatives, exploring concepts, testing hypotheses, and drawing logical conclusions. When viewed longitudinally (the study covers two years), it increased the transfer between learning contexts. Alkın-Şahin and Gözütok (2013), emphasized the necessity of reflecting critical thinking on teachers' behavior as a whole to raise critical thinking of individuals. They stated that behavior indicative of critical thinking such as establishing relationships, searching for reasons and evidence, tolerating ambiguities, being open, asking high-level questions, being unbiased, seeking the truth, delaying judgment, doubting, and being curious (Alkın-Şahin and Gözütok, 2013). Setting an example for students in critical thinking, and creating a tolerant classroom environment for

contradictions, inconsistencies, different opinions, and discussion is important for the mental development of individuals. This should be ensured not only for students or the classroom environment, but also for any environment where speech and discussion take place and truth is sought as critical thinking is the power of disciplined thinking. It is about learning to think for oneself and being oneself or individuating oneself. In other words, critical thinking is the practice of personal empowerment and enrichment that results from learning to use the mind to its full potential. The application ground of this practice is questioning (Durhan, 2021). Therefore, teachers need to have experience, skills, and attitudes regarding such actions in terms of the teaching processes they will prefer in their classrooms. It is thought that providing prospective teachers with philosophical inquiry sessions during their pre-service education will enable them to develop their critical thinking skills and include them in their own teaching life.

Within the scope of the research, pre-service teachers were asked to convey their feelings and thoughts about the philosophical inquiry sessions. Based on the participants' experiences of the philosophical inquiry session, they defined it as a discussion environment, the art of thinking, deep questioning, and a non-judgmental environment. Additionally, they emphasized that the sessions shaped by a discussion question determined by the participants provided them with a space of freedom, and they realized the importance of asking questions. Philosophical inquiry is a content-based approach that teaches thinking skills through dialogues focusing on philosophical issues arising from texts or stories. It requires a practitioner to form an inquiry community that develops participants' skillful inquiry, clear logical thinking, and philosophical thinking skills (Yu, 1999). In philosophical inquiry societies, people are encouraged to think critically, creatively, and thoughtfully, as Lipman describes, in order to question, hypothesize, analyze, test, evaluate, synthesize, and generalize information to daily experiences (Scholl et al., 2014). Debates continue about whether philosophical inquiry is a method or not (Fynes-Clinton, 2018). Additionally, it is assumed that participating in philosophical dialogues by including philosophical inquiry into the programs as a teaching method in teaching science to students will provide students with perspectives on the foundations of scientific questions, and it is emphasized how such questions can be systematically detailed (Schjelderup, 2009). According to Çakır Kaytancı and Dombaycı (2020), in the learning environment of the inquiry community, the individual strengthens his/her own voice with the voice of others. Being together with the community, thinking together, questioning and gaining a culture of discussion constitute the basis of this power. It is hoped that a democratic environment will be ensured in communities accustomed to this way of thinking and that cooperation toward the solution of problems will develop. Inquiry society aims to raise individuals who question what is presented to them, learn, make sense of it, and are active, in action, self-aware, live in society as themselves, and aim to improve them and the society (Sharp, 1987; Kennedy, 2012).

Participants stated that they participated in philosophical inquiry sessions for reasons such as the desire to be included in the discussion environment and to gain different perspectives, their interest in philosophy, and the need for socialization and contribution to their personal development. It can be said that the experimental procedures, which coincide with the last periods of the pandemic, offer the participants the

opportunity to step out of the routine and talk about a different subject. When considered in the context of being open to new and different perspectives and critical thinking in the learning and renewal sub-dimension of 21st-century skills, it can be concluded that these dimensions overlap with the objectives of philosophical inquiry. According to Lipman (2003, as cited in Scholl et al., 2014), the pedagogical structure of the philosophical inquiry community is based on the social, constructivist learning theories of Dewey and Vygotsky. Participants work, analyze, and evaluate collaboratively with the facilitator to explore concepts. It builds new understandings based on the thought of society and reflects on thinking (Fynes-Clinton, 2018). Therefore, it emphasizes an active learning process and the student's personal participation in learning (Cam, 2011; Scholl et al., 2014). However, in the evaluation of the philosophical inquiry sessions of the pre-service teacher, it is seen that their expectations from the process are met and they contribute to both their daily lives and personal development by gaining different perspectives. On the other hand, pre-service teachers evaluated the sessions with a critical approach and offered solutions to the sessions, the participants, and the situations they saw as their own problems. In this context, it can be said that pre-service teachers analyze the process by self-criticism and self-evaluation.

In conclusion, to train global teachers (Ikeanyionwu & Enwere, 2020) who teach their students to learn, inspire their creativity by supporting them, provide new learning opportunities, and encourage lifelong learning, environments that enable teachers to be equipped 21st-century skills and to think critically in pre-service education processes are required. The philosophical inquiry community is one of the instructional practices targeting these skills. Classes can be transformed into communities of philosophical inquiry, with sessions designed as field-independent or content-based. In this way, participants can be provided with comfortable, safe, and supportive learning environments (Kennedy 1998; Kennedy, 2018; Kennedy & Kennedy, 2011; Lipman, 1995; Sarp, 1987). When communities of philosophical inquiry are supportive and include all students, it minimizes the risks of thinking and provides an environment where students know that their ideas will be valued and taken into account without fear of humiliation (Fynes-Clinton, 2018).

Conclusions and Recommendations

Considering all these explanations, it can be said that alternative methods and techniques to be employed in teacher education will support teachers to become the global teachers of the future. In the process of gaining 21st-century skills, traditional methods can be used in the traditional classroom environment, as well as alternative methods whose goal is to develop thinking skills and life skills together. Such activities in the classroom can be employed on a continuous or part-time basis. For this purpose, educational support can be given to teachers regarding the application of the method in question. In this study, philosophical inquiry is considered to be a try method for this purpose. Since the research area was designed independently, it is in a single-group pretest-posttest model. A similar study can be designed as content-based and tested with experimental and control groups. In this study, the effect of philosophical inquiry on critical thinking skills was tested based on the basis of the relationship between critical thinking and philosophical thinking. The study can be repeated with different dependent variables (epistemological belief,

automatic thinking, and creative/reflective thinking). Another dependent variable of the research is 21st-century skills. In a different study, the relationship between philosophical inquiry and lifelong learning skills can be tested.

Author Contributions

All authors were equally involved in all processes of the article. All authors read and approved the final version of the study.

Ethical Declaration

This study was conducted with the approval of Pamukkale University Social and Human Sciences Scientific Research and Publication Ethics Committee (Number: 68282350/22021/G10) dated 02.06.2021.

Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Extended Abstract

When 21st-century skills are considered in terms of basic and literacy skills, critical thinking is one of these basic skills (Cansoy, 2018) means that the importance of critical thinking will continue in the future (Çalışkan, 2019). Critical thinking skill is a way of thinking that is logical, reflective, and aimed at deciding what to do and what to believe (Ennis, 1985). It is possible to question life; to distinguish between right and wrong; to criticize increasingly contaminated information, claims and propositions; to be honest in their judgments; to base their opinions on solid foundations; and to eliminate dependence on authority by thinking critically (Alkm-Şahin & Tunca, 2015). Therefore, it is an inevitable necessity to implement 21st century skills in schools and to provide them to students (Soland, Hamilton, & Stecher, 2013). Students can acquire 21st century skills with teachers who have these skills (Harris et al., 2009). Raising critical thinking individuals with critical thinking knowledge, skills and attitudes is possible with teachers who care about their students' acquisition of critical thinking skills and can apply appropriate methods and techniques in the classroom (Önal & Erişen, 2019). This situation draws attention to the methods and techniques that can be used in teaching both 21st century skills and critical thinking skills. Pre-service teachers should gain knowledge, skills and experience in appropriate methods and techniques starting from the pre-service period. Philosophical inquiry is a method that can be used to acquire these skills. According to Lipman (1995), critical thinking develops conceptualization, reasoning, generalization and research skills. He also argued that developing critical thinking through interaction with peers is much easier than teaching it technically. Philosophical inquiry is an approach that meets all these criteria. Philosophical inquiry sessions, which first started as "Philosophy with Children", were later called inquiry community and collaborative inquiry community and were carried out with participants from different age groups (Kennedy 1998; Kennedy, 2018; Kennedy & Kennedy, 2011; Lipman, 1995; Sarp, 1987). The philosophical inquiry sessions consisted of 10 stages. Relaxation exercises, determining the rules of the session, presenting the stimulus (story, object, picture, etc.), thinking about the stimulus, asking questions, linking questions, choosing the question to be asked for philosophical inquiry, developing thoughts about the question, following each other's thoughts, and encouraging questioning. It can be said that all these stages directly affect thinking and questioning skills (Trickey & Topping, 2004).

The relationship between philosophy and critical thinking stems from the similarities between the characteristics, rules, methods or concerns of philosophy and the principles, dispositions and skills of critical thinking. Philosophical thinking is a critical/questioning way of thinking, and the rules and methods of philosophical studies and the theoretical concerns of philosophy (clarity, systematicity, etc.) are parallel to the principles of critical thinking. Doing philosophy requires critical thinking and thinking is a philosophical activity. The fact that philosophical attitudes and critical thinking tendencies are coordinated and that individuals who are described as "wise" and "critical thinkers" have the same characteristics shows that there is a strong relationship between philosophy and critical thinking (Alkm-Şahin & Tunca, 2015). Philosophical inquiry sessions, which first started as "Philosophy with Children", were later named as inquiry community and collaborative inquiry community and

were carried out with participants from different age groups. Philosophical inquiry sessions start with a stimulus (story, object, picture, video, etc.) and are aimed at thinking about the stimulus, asking questions, establishing connections between questions, choosing the question to be questioned, developing thoughts about the question, following each other's thoughts and opening ways of questioning. Philosophical inquiry sessions are a learning environment dating back to Socrates and finalized by Lipman in the context of philosophy programs for children (Çakır-Kaytancı & Dombaycı, 2020). According to Kennedy and Kennedy (2011), a philosophical inquiry session is a deliberate community of conversation consisting of a group of people who participate consistently and regularly.

While the debate on whether philosophical inquiry is a method or not (Kohan & Carvalho, 2019), the philosophical inquiry community also offers the opportunity to raise individuals with basic 21st century skills in increasingly crowded educational environments (Çakır-Kaytancı & Dombaycı, 2020). Therefore, it is thought that philosophical inquiry practices will provide a learning environment that allows pre-service teachers to develop both 21st century skills and critical thinking skills. When the literature is examined, pre-service teachers' 21st century skills, their perceptions of these skills (Akbay et al., 2020; Erten, 2020; Orhan Gökşün & Kurt, 2017; Özdemir Özden et al., 2018; Varki 2020; Vebrianto et al, 2020) and critical thinking skills (Çolak et al., 2019; Akkaya et al., 2018; Aybek & Aslan, 2017; Deringöl, 2017) and critical thinking skills (Çolak et al., 2019; Akkaya et al., 2018; Aybek & Aslan, 2017; Deringöl, 2017). However, it is noteworthy that studies on philosophical inquiry are mostly conducted with preschool and young children (Gasparatou & Kampeza, 2012; Güven, 2019; Işıklar, 2019; Karadağ & Yıldız Demirtaş, 2018; Yıldız-Demirtaş et al., 2018). However, there is no study on the contributions of philosophical inquiry sessions that include both 21st century skills and critical thinking skills to pre-service teachers. Therefore, the main purpose of this study is to examine the effects of philosophical inquiry sessions on 21st century skills efficacy perceptions and critical thinking skills in the context of pre-service teachers' views. The research was designed in the "One Group Pre-Test - Post-Test" model, which is one of the experimental models. The main study group of the research consisted of 17 pre-service teachers (13K, 4E) studying at the faculty of education in the spring semester of the 2020-2021 academic year.

The philosophical inquiry sessions implemented within the scope of the research were held for a total of 12 weeks starting from the spring semester of the 2020-2021 academic year. According to the availability of the majority of the participants, the days and times of the sessions were determined between 16.05.2021 and 01.08.2021. However, since the sessions were conducted online, the number of participants in the sessions varied, which led to connectivity problems. Before starting the philosophical inquiry sessions, an introductory meeting was held on 08.05.2021 and information about the process was given. On 12.05.2021, a pilot philosophical inquiry session was held and then pretests were administered. Then, starting with the actual applications, 12 philosophical inquiry sessions were conducted over stimuli consisting of 9 reading passages and 3 videos.

In the study, "21st Century Skills Competency Perceptions Scale for Preservice Teachers" and "Ennis-Weir Written Critical Thinking Test (E-YETT)" were used as quantitative

data collection tools, and a semi-structured interview form was used as qualitative data. Descriptive statistical methods and Paired Samples t-Test were used to analyze the quantitative data obtained from the research, while qualitative data were analyzed by content analysis. This study examined the effects of philosophical inquiry sessions on pre-service teachers' 21st century skills and critical thinking skills. The quantitative and qualitative findings of the study showed that philosophical inquiry positively affected both 21st century learning and renewal skills and critical thinking skills. 12 different stimuli were used in the form of philosophical inquiry sessions, which had a positive effect on pre-service teachers' critical thinking skills and renewal and learning skills. A significant difference was found between the pre-test and post-test scores of the participants' Ennis Weir critical thinking skills written test pre-test and post-test scores and the 21st century skills scale renewal and learning skills subscale pre-test post-test scores in favor of the post-test. In the results of the interviews with pre-service teachers, it was stated by the participants that philosophical inquiry sessions drew attention to skills such as asking questions, developing different perspectives and understanding the opposing view.

Within the scope of the research, pre-service teachers were asked to share their feelings and thoughts about the philosophical inquiry sessions. Based on the participants' experiences, they defined a philosophical inquiry session as a discussion environment, an art of thinking, deep questioning and a judgment-free environment. They also emphasized that the sessions shaped by a discussion question determined by the participants provided them with a space of freedom and made them realize the importance of asking questions. Philosophical inquiry is a content-based approach to teaching thinking that teaches thinking skills through dialogues that focus on philosophical issues arising from texts or stories. It requires a practitioner to create a community of inquiry that develops participants' skilled questioning, clear logical thinking, and philosophical thinking skills (Yu, 1999). In philosophical inquiry communities, participants are encouraged to think critically, creatively, and thoughtfully as Lipman describes, thus enabling them to question, hypothesize, analyze, test, evaluate, synthesize, and generalize knowledge to everyday experiences (Scholl et al., 2014). There are ongoing debates about whether philosophical inquiry is a method (Fynes Clinton, 2018). It is also assumed that engaging students in philosophical dialogues by incorporating philosophical inquiry into programs as a teaching method in science teaching will provide students with perspectives on the foundations of scientific questions and emphasize how such questions can be elaborated in a systematic way (Schjelderup, 2009). According to Çakır Kaytancı and Dombaycı (2020), in the learning environment of a community of inquiry, the individual strengthens his/her voice with the voices of others. Being with the community, thinking together, questioning and gaining a culture of discussion form the basis of this power. It is hoped that in communities accustomed to this way of thinking, a democratic environment will be provided and cooperation to solve problems will develop. The inquiry society aims to raise individuals who question what is presented to them, learn, make sense, are active, take action, have self-awareness, live as themselves in society, and aim to improve themselves and society (Sharp, 1987; Kennedy, 2012).


Consequently, in order to train global teachers (Ikeanyionwu & Enwere, 2020) who teach their students to learn, inspire their creativity by supporting them, provide new

learning opportunities, and promote lifelong learning, environments that equip teachers with 21st century skills and enable them to think critically in their pre-service education processes are necessary. The philosophical community of inquiry is one of the teaching practices targeting these skills. Lessons can be transformed into philosophical communities of inquiry with sessions designed to be content- or domain-independent. In this way, participants can be provided with comfortable, safe and supportive learning environments (Kennedy 1998; Kennedy, 2018; Kennedy & Kennedy, 2011; Lipman, 1995; Sarp, 1987). Because philosophical communities of inquiry are supportive and inclusive of all students, they minimize thinking risks and provide an environment where students know that their ideas will be valued and considered without fear of humiliation (Fynes-Clinton, 2018).

Based on the research findings, it can be said that alternative methods and techniques to be used in teacher education will support teachers to become the global teachers of the future. In the process of gaining 21st century skills, traditional methods can be used in the traditional classroom environment, as well as alternative methods that aim to develop thinking skills and life skills together. Such in-class activities can be used on a permanent or part-time basis. For this purpose, teachers can be provided with training support on the application of the method in question. The study can be repeated with different dependent variables (epistemological beliefs, automatic thinking and creative/reflective thinking). Another dependent variable of the study is 21st century skills. In a different study, the relationship between philosophical inquiry and lifelong learning skills can be tested.

The Mediating Role of Career Stress and Career Awareness in the Relationship Between Mother Helicopter Parenting, Autonomy Supportive Behaviors, and Career Instability

Anne Helikopter Ebeveynliği ve Özerklik Destekleyici Davranışları ile Kariyer İstikrarsızlığı Arasındaki İlişkide Kariyer Stresi ve Kariyer Farkındalığının Aracı Rolü

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Abstract: This study aims to examine the structural relationships between mothers' parental helicopter parenting and autonomy supportive behaviors, and emerging adults' career instability, career awareness, and career stress. The study sample includes 970 university students, comprising 635 women (65.4%) and 335 men (34.6%), aged between 17 and 25. Participants provided self-reported data on helicopter parenting, autonomy supportive behaviors, career instability, career awareness, and career stress. Structural equation modeling was utilized to assess the intricate relationships among these variables. Findings indicate that maternal autonomy supportive behaviors significantly correlate with career awareness, though they do not have a statistically significant relationship with career stress. Helicopter parenting is positively associated with career stress, whereas career awareness shows a negative association. Additionally, career awareness inversely contributes to career instability, while both career stress and helicopter parenting have positive contributions. The link between helicopter parenting and career awareness was not statistically significant. Helicopter parenting's impact on career instability is mediated by career stress, while the influence of autonomy supportive behaviors on career instability is mediated through career awareness and both career awareness and career stress.

Keywords: Helicopter parenting, autonomy supportive behaviors, career instability, career awareness, career stress

Öz: Bu çalışma, annelerin helikopter ebeveynlik ve özerklik destekleyici davranışları ile gelişmekte olan yetişkinlerin kariyer istikrarsızlığı, kariyer farkındalığı ve kariyer stresi arasındaki yapısal ilişkileri incelemeyi amaçlamaktadır. Çalışmanın örneklemi, yaşları 17 ile 25 arasında değişen 635 kadın (%65,4) ve 335 erkekten (%34,6) oluşan 970 üniversite öğrencisinden oluşmaktadır. Katılımcılar helikopter ebeveynlik, özerklik destekleyici davranışlar, kariyer istikrarsızlığı, kariyer farkındalığı ve kariyer stresi konularında öz bildirimde bulunmuşlardır. Bu değişkenler arasındaki karmaşık ilişkileri değerlendirmek için yapısal eşitlik modellemesi kullanılmıştır. Bulgular, annenin özerklik destekleyici davranışlarının kariyer farkındalığı ile önemli ölçüde ilişkili olduğunu, ancak kariyer stresi ile istatistiksel olarak anlamlı bir ilişkisi olmadığını göstermektedir. Helikopter ebeveynlik kariyer stresi ile pozitif bir ilişki gösterirken, kariyer farkındalığı negatif bir ilişki göstermektedir. Buna ek olarak, kariyer farkındalığı kariyer istikrarsızlığına ters yönde katkıda bulunurken, hem kariyer stresi hem de helikopter ebeveynliğin olumlu katkıları vardır. Helikopter ebeveynlik ile kariyer farkındalığı arasındaki bağlantı istatistiksel olarak anlamlı değildir. Helikopter ebeveynliğin kariyer istikrarsızlığı üzerindeki etkisine kariyer stresi aracılık ederken, özerklik destekleyici davranışların kariyer istikrarsızlığı üzerindeki etkisine kariyer farkındalığı ve hem kariyer farkındalığı hem de kariyer stresi aracılık etmektedir.

Anahtar Kelimeler: Helikopter ebeveynlik, özerklik destekleyici davranışlar, kariyer istikrarsızlığı, kariyer farkındalığı, kariyer stresi

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Introduction

In an era where technological advancements and globalization are rapidly accelerating, maintaining a linear career path is becoming increasingly challenging, and individuals are seeking to gain experience in different fields. As a result, individuals are seeking to diversify their experiences across different fields. Career instability, which includes working in multiple domains throughout one's professional life, frequent job changes, or uncertainty in career choices, is a significant issue encountered during this process (Lent & Brown, 2020). This is because, in the modern work environment, technological developments, globalization, and changing economic conditions have necessitated flexibility and adaptability in individuals' career paths (Buntak et al., 2017). In this context, career instability has emerged as a process that requires individuals to redefine their professional identities and career goals.

Career instability refers to a lack of reliability or uniformity in actions, performance, or experiences that can negatively impact professional development and opportunities (Brown & Lent, 2012). This concept can manifest as erratic behavior related to one's profession, missed deadlines, low work

quality, and a perception of unreliability. Such behaviors may cause colleagues and supervisors to lose confidence in an individual's judgment and ability to meet commitments, thus diminishing their reliability and effectiveness within team environments (Kim & Kim, 2014). Additionally, the habit of frequently changing jobs due to instability may raise red flags for potential employers. Employers may question the candidate's commitment and predict the likelihood of the individual leaving shortly after being hired (Creed & Saporta, 2003). Furthermore, career instability can affect relationships with colleagues and supervisors. When individuals fail to align their actions with their statements, it can lead to a breakdown in trust (Winkielman & Nowak, 2022). Colleagues may hesitate to collaborate with someone perceived as unreliable, limiting professional networking and advancement opportunities.

Career instability also has the potential to affect individuals' personal lives in various ways. A notable disparity between desired and achieved career goals may lead to increased levels of psychological issues such as depression, anxiety, and stress (Praskova & McPeake, 2021; Widyowati et al., 2024). Furthermore, individuals experiencing career

instability might choose career paths below their potential by scaling down their goals. Difficulty in revising career plans can result in stagnation in professional growth (Kim, 2009). Long-term instabilities can impede career advancement, and the associated loss of self-confidence can result in missed opportunities (Kim & Kim, 2023). These findings suggest that career instability may heighten psychological distress, hinder career adaptability, and negatively impact career planning. As such, identifying the individual and environmental factors contributing to career instability and understanding the underlying dynamics is essential for career counselors, educators, and psychologists. This knowledge is vital for addressing the challenges individuals encounter during career planning. Among the factors related to career instability are career awareness and career stress.

Career Awareness and Career Stress: Role in Career Development and Career Instability

Career awareness and career stress play crucial roles in both career development and career instability. Having a clear awareness of career paths allows individuals to make informed decisions by understanding the choices available, the skills required, and the challenges that may arise. This understanding is crucial for setting realistic goals and devising strategies to overcome potential obstacles (Baloch & Shah, 2014). Recognizing the demands of a chosen career path enables individuals to identify the skills they need to enhance. By actively pursuing relevant training or educational opportunities, they can improve their chances of success and boost their employability (Getachew et al., 2020). In today's fast-paced job market, staying aware of career trends is key to remaining adaptable. Being informed about industry trends and emerging career opportunities puts individuals in a better position to explore and seize new opportunities critical for professional growth (Seibert et al., 2016). Moreover, career awareness can help individuals anticipate stressors in their chosen fields and prepare accordingly (Liao et al., 2023). By understanding the challenges ahead and developing coping strategies, they can navigate their career paths more effectively and maintain a healthier balance between work and life. Furthermore, awareness can encourage individuals to connect with others in their desired fields, which can provide valuable insights, support, and mentorship that contribute significantly to career progression (Carlson, 2014). Networking and mentorship opportunities can provide valuable insights, support, and guidance that significantly contribute to career development. Lack of career awareness can lead to unrealistic expectations about job roles, working conditions, and career progression. When reality does not meet these expectations, individuals may experience stress and dissatisfaction, resulting in frequent job changes or career instability (Creed et al., 2007). Additionally, poor career awareness may lead individuals to pursue paths that do not align with their skills or interests, which can result in frustration, stress, and ultimately, career instability (Wardani et al., 2021).

Career stress, on the other hand, can have a significant impact on an individual's well-being and performance. Career stress stems from the pressures and demands related to one's career. It can arise from various sources, including workload, job insecurity, career transitions, and the balance between work and personal life (Gunnar, 2017). Moderate levels of career stress can serve as a source of motivation, pushing individuals to perform better, develop new skills, and seek

advancement opportunities, while high levels of career stress are associated with the opposite effects (Nisar & Rasheed, 2020). Persistent high stress can cause individuals to change jobs frequently, struggle to maintain their performance, or even leave their careers altogether (Chandio et al., 2013). High stress levels can also impair decision-making, resulting in hasty or poorly thought-out career choices. This may create a cycle of instability, as individuals may frequently switch roles or industries without a clear plan (Starcke & Brand, 2012). Chronic stress can also have adverse effects on physical and mental health, further reducing one's ability to work effectively or maintain steady employment, thereby contributing to career instability (Ilogho, 2011).

Environmental factors, particularly parental attitudes toward their children, can also play a significant role in career instability. The level of interest, support, discipline, and freedom that parents provide can influence the likelihood of their children experiencing career instability (Köksal & Yam, 2023).

Helicopter Parenting and Autonomy Supportive Behaviours: Role in Career Development and Career Instability

Helicopter parenting and autonomy supportive behaviors represent two distinct parenting approaches that significantly influence an individual's psychological well-being and development (Reed et al., 2016). Helicopter parenting refers to the tendency of parents to over-intervene in their children's lives and overprotect them (Çok et al., 2022). In fact, this attitude encompasses a parenting style characterized by excessive control and overprotection of children even as they transition into adulthood (Güçlü et al., 2022). On the other hand, autonomy supportive behaviors involve parents encouraging their children to make independent decisions and manage their own lives, which fosters a sense of independence and self-regulation (Güçlü & Çok, 2021). Autonomy supportive parenting supports a sense of independence and self-regulation and encourages individuals to make their own decisions, take responsibility for their actions, and develop basic life skills (Güçlü et al., 2022). While it is important for parents to exhibit an attitude that supports their children's autonomy needs and provides them with opportunities for independent decision-making in terms of their healthy development (Hwang & Jung, 2022), helicopter parenting, which is an overprotective and intrusive parenting style, can negatively affect children's development (Alsancak-Akbulut & Kömürcü-Akik, 2024; Hwang & Jung, 2022).

Helicopter parenting and autonomy supportive behaviors also influence career development and the potential for career instability. Individuals who perceive high levels of helicopter parenting have lower career adaptability. They also experience difficulties in establishing a stable occupational identity. This supports career instability by increasing problems in career decision-making (LeBlanc & Lyons, 2022). Helicopter parents tend to make decisions on behalf of their children, limiting their opportunities to explore different career options (Bai & Luo, 2024). This lack of exploration can lead to instabilities in personal interests and career paths. Additionally, such parenting reduces the intrinsic attribution of academic success and diminishes career decision-making competence, which can contribute to career instability (Howard, 2022). In addition, children of helicopter parents may develop low self-efficacy due to constant parental interference (Reed et al.,

2016). They may lack confidence in their ability to make independent decisions, which can lead to hesitation and instability, i.e. frequent changes in career choices while seeking reassurance or approval from others.

In contrast, autonomy supportive parenting is associated with positive career outcomes and reduced career instability. Parents who encourage independence and self-directed decision-making help their children explore a variety of interests and career paths, which can lead to more informed and satisfying career choices in the long term (Lerner et al., 2022). As children explore different options, they are more likely to identify paths that align with their interests, thereby reducing the likelihood of career instability. Katz and colleagues (2018) highlight that autonomy supportive parents help their children develop strong decision-making skills by allowing them to make their own choices. These skills are crucial for evaluating personal interests and making consistent career decisions, which can reduce career instability. Furthermore, as individuals develop their interests and discover what really resonates with them, they may reduce their levels of career ambivalence. Children raised with autonomy supportive behaviors tend to have more intrinsic motivation, which may increase their likelihood of making career choices that are aligned with their personal values and interests (Jungert et al., 2015). This alignment can lead to greater satisfaction and stability in the long run. Career changes made by these individuals are often the result of genuine self-discovery rather than external pressures. Additionally, autonomy supportive parenting has been found to increase job satisfaction and reduce the intention to quit (Van Fossen, 2023).

These findings suggest that helicopter parenting, by limiting self-discovery, fostering dependence on external validation, and instilling a fear of failure, tends to contribute to career instability. Children raised with this parenting style may struggle to find a career that aligns with their true interests and values, leading to frequent changes in career decisions. Conversely, autonomy supportive behaviors generally promote self-discovery, independent decision-making, and intrinsic motivation, which support career stability. As children explore their options, they are more likely to make stable and satisfying career choices in the long term.

Research indicates that mothers may exhibit more helicopter parenting behaviors due to traditional gender roles and societal expectations that emphasize nurturing and protective behaviors (Hofer & Moore, 2010; Hunt, 2008; Marano, 2008; Somers & Settle, 2010). When mothers display these behaviors, particularly towards daughters, they may reinforce traditional gender roles, limiting the child's exploration of non-traditional or ambitious career paths, potentially leading to career instability. This tendency may be attributed to the stronger emotional bonds that women often have with their children and their heightened concern for their children's futures (Schiffrin et al., 2014). This emotional investment can contribute to helicopter parenting behaviors, as mothers may be more inclined to intervene in their children's lives to prevent potential failures or risks (Gar & Hudson, 2008). Additionally, societal norms often expect mothers to be more nurturing and involved, which can drive them toward helicopter parenting. From this perspective, the concepts of helicopter parenting, which is associated with various challenges and negative outcomes, and autonomy supportive behaviors, which are linked to numerous positive outcomes such as psychological health and positive communication, can

be analyzed through the lens of Feminist Therapy. This approach would focus on gender roles, power dynamics, and the importance of fostering autonomy in children, particularly girls.

Helicopter Parenting, Autonomy Supportive Behaviours and Feminist Therapy

Feminist Therapy is a psychotherapy approach focused on empowering women and advancing gender equality (Brown, 2008). The primary objective is to enable women to recognize their strengths, develop effective coping mechanisms, and make informed life choices, thereby fostering empowerment (Bondi & Burman, 2001). This therapeutic approach also challenges traditional power dynamics and gender roles that contribute to women's disadvantages (Worell & Remer, 2002).

Feminist Therapy challenges the patriarchal notion that a woman's primary role is motherhood and that her worth is linked to her ability to bear children (Brown, 2008). It encourages women to define motherhood on their own terms, free from societal pressures. Additionally, it posits that a mother's empowerment and autonomy have a direct impact on her child's autonomy development (Chase & Rogers, 2001). Mothers who are involved in decision-making and assert their independence model these behaviors for their children, encouraging similar traits in them (Arellano et al., 2020). For instance, mothers who are pressured by societal expectations to prioritize caregiving over their desires may struggle to model autonomy, potentially hindering their children's development of independence (Slater et al., 2001).

From a Feminist Therapy viewpoint, a mother's helicopter parenting style can be interpreted as perpetuating traditional gender roles, where women may feel pressured to conform to societal expectations of being nurturing and protective (Brown, 2008). In this context, a mother's helicopter parenting behavior might reinforce mutual dependence between her and the child, which can be criticized. This perspective aligns with feminist principles advocating for dismantling oppressive structures to support individual independence (Allen, 2015). Mothers, in particular, play a crucial role in their children's career development. From a Feminist Therapy perspective, when mothers overcome the pressures of traditional gender roles and exhibit autonomy and strength, they impart these qualities to their children (Chase & Rogers, 2001). Consequently, children may approach their career paths with greater creativity and freedom. The principles highlighted in Feminist Therapy support children in making career decisions that are more confident, autonomous, and well-informed.

Career research often focuses on specific behaviors within the context of career development (De Vos et al., 2009; Strauss et al., 2012). For instance, while parental attitudes' influence on career development has been studied (Ginevra et al., 2015), research on which parent plays a more significant role remains limited. This gap can lead to a broad evaluation of career management by researchers and practitioners in career counseling, without considering the various factors that impact career development. This study aims to clarify concepts such as career instability, career awareness, and career stress, particularly in relation to maternal helicopter parenting and autonomy supportive behaviors, thereby enriching the existing body of knowledge on career development. Additionally, it draws attention to various factors related to the role of female parents in the family and their influence on their children's career development, offering insights for future research. It

also highlights the factors that career development practitioners should consider. By identifying factors that may mediate the influence of female parents on their children's career instability, this study provides new insights into variables affecting the transition to work, employment, and subsequent career processes.

This study ultimately aims to contribute to the understanding of the underlying mechanisms in the career development process of university students by examining the complex interactions between maternal helicopter parenting and autonomy supportive behaviors, and individual factors such as career instability, career awareness, and career stress. The study specifically aims to investigate the structural relationships between maternal helicopter parenting and autonomy supportive behaviors, and emerging adults' career instability, career awareness, and career stress using the hypothetical model depicted in Figure 1. According to this model, it is hypothesized that maternal helicopter parenting behaviors will reduce career awareness and increase career stress in emerging adults, leading to greater career instability. Conversely, maternal autonomy supportive behaviors are expected to increase career awareness and reduce career stress, thus decreasing career instability insistency.

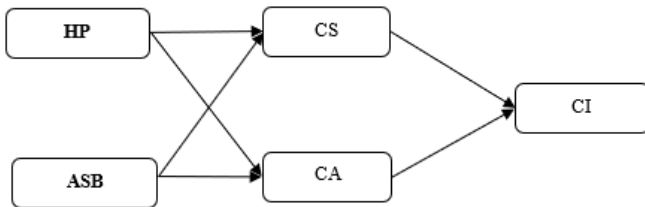


Figure 1. The structural model tested

HP = Helicopter Parenting, ASB = Autonomy Supportive Behaviors, CA = Career Awareness, CS = Career Stress, CI = Career Instability.

Method

Study Group

The gender distribution of the sample was 65.4% female (n=635) and 34.6% male (n=335). All participants were informed about the aims and procedures of the study. In addition, a written informed consent form was obtained from the participants. Approval for the procedures of the study was obtained from the ethics committee of Erzincan Binali Yıldırım University. Participants were 1,011 university students, selected through convenience sampling. A control question—"If you are reading this question, please code 3"—was used during data collection to ensure attention, and 41 participants who did not answer correctly were excluded from the study. Consequently, the final sample consisted of 970 university students, aged between 17 and 25 (M = 22; SD = 4.19). The gender distribution of the sample was 65.4% female (n = 635) and 34.6% male (n = 335). A power analysis conducted with RMSEA to assess the statistical power of a structural model (Preacher & Coffman, 2006) indicated that the current study has a statistical power of 1, demonstrating that it possesses sufficient statistical power. All participants were informed about the study's aims and procedures, and written informed consent was obtained. The study procedures were approved by the Ethics Committee of Erzincan Binali Yıldırım University.

Data Collection Tools

Helicopter Parenting Behaviors Questionnaire (HPBQ)

The questionnaire used to examine university students' perceptions of helicopter parenting behaviors was developed by Schiffrin et al. (2014) based on self-determination theory. The 15-item questionnaire comprises two dimensions of parenting behavior: Helicopter Parenting Behaviors (9 items; e.g., "My mother regularly wants me to call or text her to let her know where I am") and Autonomy Supportive Parenting Behaviors (6 items; e.g., "My mother encourages me to keep a budget and manage my own finances"). It was rated on a scale ranging from 1 (Strongly disagree) to 6 (Strongly agree). The scale specifically focuses on maternal behaviors due to literature indicating that mothers are more involved in the lives of their adult children compared to fathers (Schiffrin et al., 2014).

The scale was adapted into Turkish by Çok et al. (2022). The internal consistency coefficients for the original form of the scale were found to be .77 for Helicopter Parenting Behaviors and .71 for Autonomy Supportive Behaviors (Schiffrin et al., 2014), while the Turkish adaptation showed internal consistency coefficients of .80 for both subdimensions (Çok et al., 2022). In the present study, the internal consistency coefficients were found to be .83 for Helicopter Parenting Behaviors and .85 for Autonomy Supportive Behaviors.

Career Goal Discrepancy Scale (CGDS)

The Career Goal Discrepancy Scale, developed by Creed and Hood (2015), is a unidimensional scale. It consists of 12 items, such as "My plans are not working out to get the career I really want." and "Despite my best efforts, I think I am going to miss out on my ideal career." The scale is designed in a seven-point Likert format. There are no reverse-coded items, and the Cronbach's Alpha coefficient was found to be .96. The scale's Turkish adaptation was conducted by Yam et al. (2020), with a Cronbach's Alpha reliability coefficient of .92. In this study, the Cronbach's Alpha reliability coefficient was determined to be .93.

Career Awareness Scale (CAS)

This instrument, developed by Yaşar and Sunay (2019), is divided into four sub-dimensions. The first, *Professional Development Susceptibility*, includes six items such as "I am aware of career opportunities within my field of study" and "I know where to seek guidance for career planning." The second, *Professional Readiness*, consists of four items, including "I feel ready to enter the professional workforce" and "I am confident in my ability to succeed in any job." The third, *Professional Consciousness*, has four items like "Advancing my career is a key goal for me" and "I actively seek information about my career options." The final sub-dimension, *Professional Self-Confidence*, also consists of four items, such as "I am capable of making the best career decisions" and "I am prepared to handle the competitive nature of the workforce." with sub-dimension coefficients of .83 for Professional Development Susceptibility, .81 for Professional Readiness, .80 for Professional Consciousness, and .79 for Professional Self-Confidence. This study produced similar results, with an overall Cronbach's Alpha of .90 and sub-dimension coefficients of .80, .81, .76, and .77, respectively.

Career Stress Scale (CSS)

The Career Stress Scale was developed by Choi et al. (2011) to measure the stress sources and challenges related to career issues among university students. It consists of 20 items and four sub-dimensions: career ambiguity, lacking information, employment pressure, and external conflict. The measure is a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The internal consistency reliability, represented by Cronbach's Alpha, was reported as .89 for career ambiguity, .89 for lacking information, .85 for employment pressure, and .83 for external conflict. The adapted scale consists of three sub-factors. The first factor, career uncertainty and lack of knowledge, consists of 10 items (e.g., 'I am worried because I do not know what my ability is'), the second factor, external conflict, consists of four items (e.g., 'I am worried about the negative opinions of others about my career choice'), and the third factor, employment pressure, consists of six items (e.g., 'I am worried about the possibility of not finding the job I want'). Cronbach's Alpha coefficients of the scale are .81 for total scores, .94 for career uncertainty and lack of information, .86 for job search pressure, and .83 for external conflict. In the present study, Cronbach's Alpha coefficients are .80 for total scores, .93 for career uncertainty and lack of information, .87 for job search pressure and .82 for external conflict.

Data Analysis

Data analysis was conducted in a two-step process. First, descriptive statistics were calculated. Subsequently, a structural model was tested to explore the relationships among the variables of interest. Statistical analyses were performed using MPlus version 8.4 (Muthén & Muthén, 1998-2017) and JASP version 0.16.1 (JASP Team, 2022). Normality was assessed using skewness and kurtosis, and descriptive statistics and correlation coefficients were computed for the sample. A structural equation model (SEM) was then constructed to examine the relationships among the variables of interest. Following Anderson and Gerbing's (1988) two-step SEM procedure, the measurement model was first tested using confirmatory factor analysis, followed by an examination of the structural model. Model fit was evaluated using CFI ($\geq .90$), TLI ($\geq .90$), SRMR ($\leq .08$), and RMSEA ($\leq .08$) with 90% CI, as recommended by Brown (2015), Kline (2011), and Wen et al. (2004). Additionally, indirect effects were examined using the bootstrapping method with 2000 bootstrap samples and a 95% bias-corrected confidence interval.

Findings

Descriptive Statistics

The statistical measures, including means, standard deviations, and Cronbach's alpha values of the psychometric instruments, along with the correlations between the scale scores, are detailed in Table 1.

Measurement Model

The initial measurement model did not fit the data adequately ($\chi^2(183) = 1282.774$, $p < 0.001$; RMSEA [95% CI] = 0.079 [0.075 - 0.083], $p < 0.05$; CFI = 0.90; TLI = 0.89; SRMR = 0.047). To address this, modification indices were reviewed, and it was found that correlating the error terms of items 5 and 6, as well as items 8 and 9 from the Career Inconsistency Scale (CIS), would enhance the model fit. The final measurement

model demonstrated an acceptable fit to the data ($\chi^2(181) = 1037.010$, $p < 0.001$; RMSEA [95% CI] = 0.070 [0.066 - 0.074], $p < 0.05$; CFI = 0.92; TLI = 0.91; SRMR = 0.044). Factor loadings for the indicators were significant, ranging from 0.309 to 0.906. Additionally, all latent variables showed significant correlations with one another ($p < .05$), with standardized correlation coefficients ranging between 0.086 and 0.683.

Structural Model

The proposed structural model, examining relationships among helicopter parenting, autonomy-supportive behaviors, career inconsistency, career stress, and career awareness, initially indicated a lack of adequate fit to the data: $\chi^2(517) = 2472.398$; $p < .01$; RMSEA [90% CI] = 0.062 [0.060 - 0.065], $p < .05$; CFI = 0.882; TLI = 0.872; SRMR = 0.062. The standardized regression coefficients suggested that the connections between helicopter parenting and career awareness ($\beta = 0.086$, $SE = 0.198$, $p > .05$), as well as autonomy supportive behaviors and career stress ($\beta = -0.490$, $SE = 0.384$, $p > .05$), were not statistically significant, leading to the exclusion of these paths from the model. Further examination of modification indices indicated that correlating the error terms of items 14 and 9, items 5 and 4, items 11 and 3 from the Helicopter Parenting Scale, and items 10 and 11, 2 and 1, 3 and 2 from the Career Instability Scale would improve the model fit.

After these adjustments, the final structural model exhibited a good fit to the data: $\chi^2(512) = 2016.686$; $p < .01$; RMSEA [90% CI] = 0.055 [0.053 - 0.058], $p < .05$; CFI = 0.909; TLI = 0.901; SRMR = 0.055. The standardized regression coefficients demonstrated a significant positive relationship between autonomy supportive behaviors and career awareness ($\beta = 0.310$, $SE = 0.039$, $p < .001$). Moreover, helicopter parenting was found to be a positive predictor of career stress ($\beta = 0.147$, $SE = 0.037$, $p < .001$), whereas career awareness was a negative predictor of career stress ($\beta = -0.432$, $SE = 0.046$, $p < .01$). Career awareness negatively influenced career instability ($\beta = -0.114$, $SE = 0.041$, $p < .01$), while both career stress ($\beta = -0.663$, $SE = 0.035$, $p < .01$) and helicopter parenting ($\beta = -0.119$, $SE = 0.032$, $p < .01$) significantly contributed to career instability (Figure 2).

Indirect Relationships

As shown in Table 2, the structural model indicates that all possible indirect relationships between the variables included in the model are statistically significant. Helicopter parenting has an indirect effect on career instability through career stress ($\beta = 0.93$, $SE = 0.024$, $CI = 0.053-0.140$, $p < 0.001$). Additionally, the total indirect effect of autonomy supportive behaviors on career instability was found to be statistically significant ($\beta = -0.120$, $SE = 0.018$, $CI = -0.155-0.085$, $p < 0.001$). Furthermore, autonomy supportive behaviors have an indirect effect on career instability through career awareness ($\beta = -0.035$, $SE = 0.013$, $CI = -0.061-0.10$, $p < 0.01$) and both career awareness and career stress ($\beta = -0.085$, $SE = 0.014$, $CI = -0.113-0.057$, $p < 0.001$).

Table 1. Means, standard deviations, internal reliability and Pearson product-moment correlation coefficient

	1	2	3	4	5	6	7	8	9	10	11	12
1. HP	-											
2. ASB	,586**	-										
3. CI	,130**	,011	-									
4. CA	,180**	,275**	-,290**	-								
5. PSC	,157**	,185**	-,275**	,838**	-							
6. PA	,120**	,276**	-,174**	,792**	,586**	-						
7. PR	,128**	,210**	-,253**	,805**	,659**	,565**	-					
8. PDS	,168**	,232**	-,231**	,815**	,526**	,532**	,448**	-				
9. CS	,055	-,058	,637**	-,325**	-,228**	-,167**	-,274**	-,297**	-			
10. CALI	,079*	-,045	,626**	-,375**	-,329**	-,228**	-,327**	-,316**	,953**	-		
11. EC	,110**	-,132**	,455**	-,169**	-,125**	-,107**	-,163**	-,145**	,779**	,671**	-	
12. EP	-,044	-,003	,538**	-,227**	-,225**	-,045	-,159**	-,258**	,846**	,706**	,494**	-
Mean	28,63	24,42	40,39	66,47	14,49	16,04	15,29	20,66	56,63	27,04	9,93	19,66
Sd	10,12	7,74	16,10	10,51	3,03	2,51	3,16	4,22	16,84	9,34	4,06	5,65
Skewness	,147	-,429	,114	-,862	-,465	-,1206	-,775	-,472	-,096	,051	,394	-,443
Kurtosis	-,369	,431	-,516	,880	,584	,890	1,028	,897	-,340	-,586	-,623	-,209
α	,83	,85	,93	,90	,80	,81	,76	,77	,80	,93	,82	,87

**= p< .01, *= p< .05; HP = Helicopter Parenting, ASB = Autonomy Supportive Behaviors, CI = Career Instability, CA = Career Awareness, PSC= Professional Self-Confidence, PA= Professional Awareness, PR= Professional Readiness, PDS= Professional Development Susceptibility, CS = Career Stress, CALI = Career Ambiguity and Lacking Information, EC= External Conflict, EP= Employment Presure.

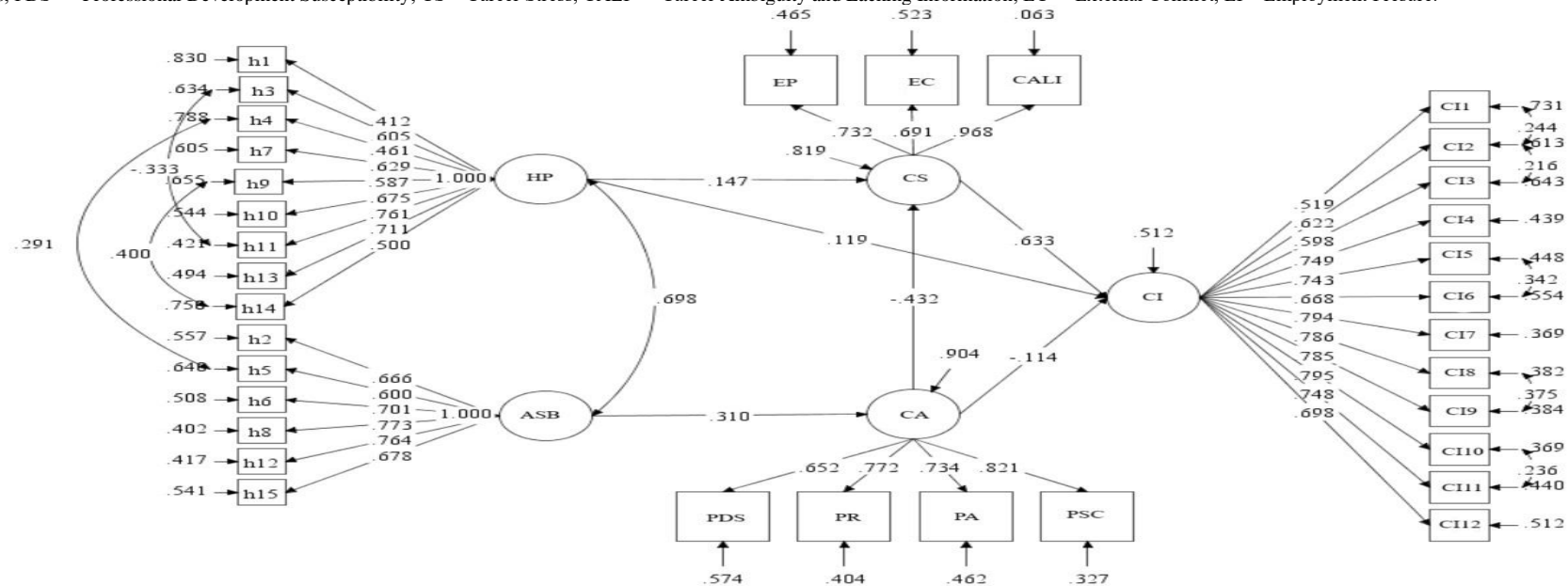


Figure 2. Standardized maximum likelihood estimates of the structural model.

HP = Helicopter Parenting, ASB= Autonomy Supportive Behaviors, CI = Career Instability, CA = Career Awareness, PSC= Professional Self-Confidence, PA= Professional Awareness, PR= Professional Readiness, PDS= Professional Development Susceptibility, CS = Career Stress, CALI = Career Ambiguity and Lacking Information, EC= External Conflict, EP= Employment Presure.

Table 2. Indirect relationships in the structural model

Indirect relationships	Indirect β (SE)	95% BC-CI [LL, UL]	<i>t</i>	<i>P</i>
HP → CS → CI	.093 (.024)	[.045, .140]	3.835	.000
Total Indirect Impact from ASB to CI	-.120 (.018)	[.155, .085]	-6.722	.000
ASB → CA → CI	-.035 (.013)	[.061, .010]	-2.724	.006
ASB → CA → CS → CI	-.085 (.014)	[.113, .057]	-5.946	.000

Note. Instrumental variables are shown in bold. HP= Helicopter Parenting, ASB= Autonomy Supportive Behaviors, CI= Career Instability, CS= Career Stress, CA= Career Awareness. *B*= Standardized regression coefficient; *SE*= Standard error, BC-CI= Bias-corrected confidence intervals. LL and UL indicate the lower and upper bound of a confidence interval, respectively.

Discussion and Conclusion

This study revealed a significant association between autonomy supportive behaviors and career awareness. Additionally, while helicopter parenting had a positive influence on career stress, career awareness negatively affected it. Moreover, career awareness had a significant negative impact on career instability, whereas career stress and helicopter parenting contributed positively to it. Contrary to expectations, the statistical analysis showed that the relationship between helicopter parenting and autonomy supportive behaviors with career stress was not significant. The study also indicated that helicopter parenting indirectly affects career instability through its impact on career stress. Furthermore, the total indirect effect of autonomy supportive behaviors on career instability was statistically significant. Finally, autonomy supportive behaviors had an indirect impact on career instability through both career awareness and career stress.

In line with Feminist Therapy principles, the findings suggest that a mother's autonomy supportive behaviors positively impact her child's career awareness. This supports Feminist Therapy's emphasis on the importance of supporting individuals in developing their identity and making autonomous choices (Evans et al., 2005). Allowing children, particularly girls, to explore various career options helps them make more informed and independent decisions, moving beyond traditional gender roles (Enns, 2004). This approach is likely to enhance career awareness. Specifically, when parents encourage their children to explore diverse career paths without imposing their own preferences, it fosters more deliberate career choices (Razali et al., 2022). Furthermore, the support for self-efficacy in career-related decision-making provided by autonomy supportive parenting reinforces this finding. Individuals with high self-confidence are anticipated to have greater career awareness as they feel more capable of seeking out career-related knowledge and experiences (Girelli et al., 2018).

Another important finding of this study is the direct relationship between a mother's helicopter parenting style and the child's career instability, while autonomy supportive behaviors do not show a direct relationship. This suggests that career instability is more closely associated with helicopter parenting than with autonomy supportive behaviors. According to Feminist Therapy, the effect of helicopter parenting on career instability may be related to the individual's questioning of their identity influenced by societal expectations and family dynamics (Daniels, 2016). Helicopter parenting might inhibit children's independence, leading to greater career instability (Gomes & Deuling, 2019). Excessive parental interference is particularly linked to challenges in setting and achieving personal career goals. Such a parenting

style may reduce self-confidence, increasing the likelihood of experiencing career instability (Wen et al., 2023). This aligns with findings by LeBlanc and Lyons (2022), which indicate that higher perceived helicopter parenting is associated with lower career adjustment and increased career doubts.

Moreover, the study finds that a mother's helicopter parenting style positively predicts the career stress of emerging adults, while their own career awareness negatively predicts it. From a Feminist Therapy perspective, helicopter parenting involves excessive intervention in decision-making processes (Wu et al., 2023), potentially undermining the child's independence and self-confidence (Lee & Lee, 2013). Thus, it can be suggested that a mother's helicopter parenting may increase career stress by diminishing the individual's sense of security regarding their career. Given that Feminist Therapy promotes enhancing personal control and making independent decisions (Enns, 2004), it can be argued that helicopter parenting negatively affects these traits, thereby increasing career stress.

Finally, a lack of career awareness might indicate difficulties in determining a career path due to societal gender norms and family pressures (Joseph, 2012). Supporting this view, Hivick et al. (2019) found that helicopter parenting reduces scores on autonomy, competence, and social relatedness. Lee and Kang (2018) also found that higher levels of helicopter parenting predict depressive symptoms through parental career expectations. This suggests that a mother's helicopter parenting negatively affects crucial career skills such as autonomy, competence, and social relatedness, as well as mental health, thereby impacting career stress.

The observed negative correlation between career awareness and career stress is expected. Liao et al. (2023) found similar results in their research with dental students, indicating that increased career stress is associated with decreased career awareness. Hashish (2019) also highlighted that while career awareness positively affects career self-efficacy, it negatively impacts career barriers such as career stress. Furthermore, Braverman et al. (2002) reported that for part-time workers, higher levels of career awareness are linked to lower levels of career stress. These findings support the study's results concerning the negative association between career awareness and career stress.

Another key finding of the study is the negative association between career awareness and career instability. This relationship may be explained by the abundance of career choices, as well as the unrealistic expectations and societal pressures emphasized by Feminist Therapy. Reduced career awareness can expose individuals to a broad range of career options, potentially leading to confusion and indecision. Having too many choices might result in difficulty committing to a single career path, thereby increasing career instability. This issue is particularly evident among young adults who may

not yet have a clear understanding of their interests or strengths (Unay-Gailhard & Brennen, 2022). Additionally, low career awareness may lead to unrealistic expectations about certain professions. Young adults may form idealized views of a career based on limited information, which can lead to disappointment when faced with the realities of that profession. This disillusionment might prompt individuals to abandon their initial career paths in favor of alternatives they believe will better meet their expectations, contributing to career instability (Gracida, 2019). Societal norms and peer influences can also affect career awareness. Individuals might feel pressured to pursue careers perceived as prestigious or financially rewarding, rather than those aligned with their personal interests or values. This external pressure can diminish career awareness and lead to career choices that are misaligned with one's true desires, thereby increasing career dissatisfaction and instability (Beecher et al., 2022).

The study also reports that career stress and a mother's helicopter parenting style are significant contributors to career instability. Career stress can stem from high expectations and demands related to career success (Akkermans & Tims, 2017). This pressure may prompt individuals to frequently reevaluate their career choices, leading to a cycle of indecision and career instability (Lee, 2023; Zhang et al., 2022). Additionally, heightened stress levels can negatively impact career planning, making it difficult for individuals to follow a consistent career path. This lack of planning can further increase career instability by causing individuals to struggle with sticking to any particular career decision (Zhang et al., 2022).

A mother's helicopter parenting approach may constrain an individual's ability to make independent career decisions (Luebbe et al., 2018). According to Feminist Therapy, such constraints on autonomy can arise from excessive reliance on external validation and guidance, leading to uncertainty regarding personal career objectives (Balin, 2014). Consequently, individuals might frequently alter their career choices to align with parental expectations or escape the pressures of their upbringing, thus increasing career instability (Ann & Kim, 2023). While parental support can enhance decision-making self-confidence, excessive support can have the opposite effect (Kim & Kang, 2023). These findings suggest that over-involvement can contribute to increased indecision and, subsequently, instability.

This study also highlights that a mother's helicopter parenting style indirectly affects career instability through career stress. Feminist Therapy often links helicopter parenting with diminished self-confidence (Dieng & O'Reilly, 2020). From this standpoint, a mother's helicopter parenting may indirectly impact career instability by increasing career stress in various ways. For example, low self-confidence can heighten stress related to career choices (Park & Lee, 2015). Individuals with low self-confidence may experience stress and seek additional options when they doubt their career decisions, which can further exacerbate career instability (LeBlanc & Lyons, 2022). Similarly, Sari and Santi (2024) found that individuals exposed to helicopter parenting might experience greater self-doubt regarding their careers. This self-doubt can lead to stress and anxiety about exploring and committing to a specific career path, contributing to career instability (LeBlanc & Lyons, 2022).

A mother's helicopter parenting style may impede the research necessary for career development, and it leads to career stress due to a lack of relevant information (Zhang et al., 2022). The stress from insufficient information can

contribute to career instability (LeBlanc & Lyons, 2022). Another explanation might be the stress from trying to meet a dominant parent's expectations. When individuals feel compelled to pursue specific careers to please a dominant parent, the resulting anxiety and stress can lead to career indecision. The struggle to balance personal desires with parental approval can increase career instability (Lee & Kang, 2018).

The study also identifies that a mother's autonomy supportive behaviors have an indirect effect on career instability through career awareness. Autonomy supportive behaviors, as outlined by self-determination theory, involve offering choices, encouraging initiative, and fostering a sense of control over decisions (Hocine et al., 2014). In this context, individuals with a strong sense of control over their career decisions are more likely to engage in career exploration and develop a clearer understanding of their interests, values, and goals (Nie et al., 2023). This enhanced career awareness can aid individuals in making more informed career choices, thereby reducing the likelihood of indecision and instability (Ann & Kim, 2023). Zhang et al. (2022) support this perspective, suggesting that environments that support autonomy allow individuals to explore their interests and make decisions aligned with their values, thus increasing career awareness. This increased awareness can mitigate feelings of being overwhelmed by external pressures or uncertainties that contribute to career indecision, potentially reducing career instability (Boo & Kim, 2020). Additionally, perceived autonomy support is positively associated with higher self-efficacy in career decision-making (Ann & Kim, 2023). When individuals feel empowered to make their own career choices, they are more likely to have confidence in their ability to advance along their career paths, thereby decreasing the likelihood of indecision or instability.

Finally, this research shows that a mother's autonomy supportive behaviors indirectly affect career instability through both career awareness and career stress. This relationship can be understood by exploring how these behaviors both increase awareness of career options and reduce the stress associated with career decisions. When a mother supports autonomy, it helps individuals develop a greater sense of control over their career choices (Distefano et al., 2018). This enhanced motivation can positively influence career development and lower the level of instability. Those who receive support for autonomy are more likely to explore and understand various career paths, thus improving their career awareness (Dalkılıç et al., 2022). As individuals become more knowledgeable about their career options, they are better able to align their choices with personal goals and desires, as highlighted by Feminist Therapy (Jung, 2013). This alignment reduces uncertainty and indecision, leading individuals to follow career paths that match their identities (Vignoli, 2015). Additionally, supporting autonomy may help in reducing career-related stress (Havermans et al., 2017). Individuals who feel their autonomy is supported generally experience less anxiety and stress related to career decisions (Katz et al., 2018). This reduction in stress can enhance clarity and confidence in career choices, thereby decreasing instability (Peter et al., 2016). Moreover, autonomy support boosts self-confidence in making career decisions, which is the belief in one's ability to make sound career choices (Jungert et al., 2013). As individuals feel more capable in their career progress, increased self-efficacy can help reduce stress

(McKay et al., 2014). This increased confidence and reduced stress contribute to lower career instability (Liu et al., 2024).

In conclusion, analyzing the impact of a mother's helicopter parenting and autonomy supportive behaviors through the lens of Feminist Therapy indicates that these dynamics align with feminist goals of enabling individuals to express their identities and pursue their aspirations without being restricted by traditional gender expectations (Pasque & Nicholson, 2023). Autonomy supportive behaviors help enhance children's self-confidence, and lead to more informed and independent career decisions, which also supports gender equality goals. Conversely, individuals may find it challenging to define their career paths due to societal norms and family pressures.

Implication

Understanding these relationships from a Feminist Therapy perspective is crucial for career counselors, educators, and psychologists. It provides essential insights into the obstacles individuals may face in career planning, particularly concerning excessive parental involvement. Additionally, it highlights the significance of parental attitudes, especially maternal ones, in shaping a child's career development. This information can help improve guidance and career counseling services in schools, aiding students in understanding parental influences and developing a consistent career plan based on their interests and skills. More psychological and sociological research is needed to examine these variables and determine which parenting styles and parental figures are most impactful in a child's career development.

The findings highlight the importance of addressing parental influences, particularly helicopter parenting and autonomy-supportive behaviours, in career counselling. Parent-focused interventions can be implemented to promote autonomy-supportive behaviours and reduce overprotective tendencies. These programmes can educate parents about the long-term consequences of helicopter parenting on career development. Applying principles of feminist therapy can empower both parents and children to challenge traditional gender roles and support autonomy, thereby promoting healthier career exploration and decision-making. Workshops focusing on managing career stress and understanding the impact of parental behaviour can prepare students for independent career planning. The findings highlight the need for policies that support career guidance services in educational institutions, particularly those that address the intersection of family dynamics and career planning. Policies that promote constructive parental involvement in career development, emphasizing autonomy rather than control, may be beneficial.

Researchers should further explore the role of fathers and other caregivers in career development. In addition, longitudinal studies could provide insights into how these dynamics evolve over time. Given the cultural specificity of this study, cross-cultural research can examine how different cultural norms influence the relationships between parenting styles and career outcomes. The study's integration of feminist therapy principles offers insights into how challenging traditional gender roles can positively impact career development, particularly for young women. By reducing the stress associated with helicopter parenting and career instability, these findings indirectly contribute to better mental health outcomes for emerging adults.

Limitation

The study used a convenience sample of university students aged 17-25 years, which may not be representative of a wider population of emerging adults or individuals in other educational or professional contexts. The sample had a higher proportion of female participants (65.4%), which may limit the generalizability of the findings to men or other gender groups. The research was conducted in a specific cultural and geographical context (e.g., Turkey). The findings may not be directly applicable to other cultures or societies where parenting styles and career dynamics are different. The study relies on self-reported measures, which are subject to biases such as social desirability and recall bias. The cross-sectional design of the study does not allow for causal inference or examination of changes in relationships over time. The study primarily examined maternal behaviour and may not have considered the influence of the parenting styles of fathers or other caregivers.

Author Contributions

The entire study was conducted by the corresponding author. No other author contributed to the study.

Ethical Declaration

This study was conducted with the permission of Erzincan Binali Yıldırım University Educational Sciences Ethics Committee with the number E-88012460-050.04-376460 and date 01.08.2024.

Conflict of Interest

The author declares no conflict of interest with any person or institution.

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Okul Öncesi Dönemde İşitme Yetersizliği Olan Çocuklarla Yapılan Erken Okuryazarlık Uygulamalarının İncelenmesi*

An Investigation of Early Literacy Practices With Children With Hearing Impairment in Preschool Period

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Öz: Bu araştırmanın amacı okul öncesi dönemde işitme yetersizliği olan çocukların erken okuryazarlık becerilerinin geliştirilmesindeki uygulamaları incelemektir. Araştırma durum çalışması olarak desenlenmiş, veriler yarı yapılandırılmış görüşme ve gözlem formu kullanılarak toplanmıştır. Araştırmanın çalışma grubunu 8 okul öncesi, 8 özel eğitim öğretmeni oluşturmaktadır. Veriler tümevarımsal bir yaklaşımla içerik analizi yöntemi kullanılarak analiz edilmiştir. Sonuç olarak araştırmaya katılan öğretmenler erken okuryazarlığı tanımlarken ilkökula hazırlanmaya odaklanmışlardır. Öğretmenler erken okuryazarlığın gelişimi için önkoşul bilgi, beceri ve yaşantılara sahip olunması gerektiğini vurgulamışlardır. İşitme yetersizliği olan çocuklara erken okuryazarlık becerilerinin geliştirilmesi etkinliklerinde öğretmenlerin daha çok kitapları kullanarak etkileşimli kitap okuma yaptıkları sonucuna ulaşılmıştır. Çalışmanın sonuçları alanyazın doğrultusunda tartışılarak işitme yetersizliği olan çocuklarının erken okuryazarlık becerileri ile ilgili farkındalık çalışmalarının yapılması, bu çocukların erken cihazlandırılması için ailelere yönelik bilgilendirilme çalışmalarının yapılması ve ileriki araştırmalara yönelik önerilerde bulunulmuştur.

Anahtar Kelimeler: İşitme yetersizliği olan çocuk, özel eğitim, erken okuryazarlık becerileri, okul öncesi dönem, durum çalışması

Abstract: This study examines the practices of developing early literacy skills in children with hearing impairment in the preschool period. The research was designed as a case study, and data were collected using a semi-structured interview and observation form. The study group consisted of eight preschool and eight special education teachers. The data were analyzed using an inductive content analysis method. The results revealed that the teachers who participated in the study focused on primary school preparation when defining early literacy and emphasized the need for prerequisite knowledge, skills, and experiences to develop early literacy. It was concluded that in the activities of developing early literacy skills for children with hearing impairment, teachers mostly used books for interactive book reading. The study results were discussed in line with the literature, and recommendations were made for conducting awareness studies on early literacy skills of children with hearing impairment, conducting awareness-raising studies for families for the early deviceization of these children, and for future research.

Keywords: Child with hearing impairment, special education, early literacy skills, preschool period, case study

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Giriş

Okuma yazmanın öğrenilmesi çeşitli bilgi ve beceriler gerektiren karmaşık bir süreçtir (Karasu, 2020; Roskos vd., 2003; Sánchez & Alonso Cortés, 2012). Bu sürecin kolaylaşması için çocukların okul öncesi (OÖ) dönemde erken okuryazarlık becerilerini geliştirmeleri önemlidir. Türkiye’de okuma yazmaya hazırlık etkinlikleri adı altında çalışılan beceriler, Millî Eğitim Bakanlığının 2024 yılında çıkardığı okul öncesi eğitim programında erken okuryazarlık etkinliği olarak belirtilmiştir (MEB, 2024). Erken okuryazarlık, okuma yazma öncesi çocukların edinmeleri beklenen önkoşul bilgi ve becerilerdir (Ergül vd., 2016). Bu beceriler; ses bilimsel/fonolojik farkındalık, yazı farkındalığı, alfabe ve harf bilgisi, sözcük bilgisi ve dinlediğini anlamadır (Piştav-Akmeşe ve Sezgin-Küçük, 2022; Strickland & Riley-Ayers, 2006; Whitehurst & Lonigan, 1998).

OÖ dönemde erken okuryazarlık becerilerinin geliştirilmesi sonraki dönemlerde akademik başarıya katkı sağlamaktadır (Nittrouer vd., 2012; Strickland & Riley-Ayers, 2006; Tomblin vd., 2015). Erken okuryazarlıkla okuma ve akademik beceriler arasında sıkı bir ilişki vardır (Kargın vd.,

2017). OÖ dönemde kazanılan erken okuryazarlık becerileri çocukların okuma yazma becerilerini öğrenmelerini kolaylaştırarak akademik başarılarını arttırmakta ve kendilerine güven duymalarını sağlayarak sosyal etkileşimlerine olumlu katkılarda bulunmaktadır (Lonigan vd., 2011). Cabell vd. (2011) yaptıkları boyamsal çalışmada OÖ dönemde erken okuryazarlık becerileri kazanmanın çocukların ilkökuldaki okuma yazma becerilerini yordadığını ortaya çıkarmışlardır. Bununla birlikte erken okuryazarlık becerilerini OÖ dönemde edinmemiş çocuklar okuma yazma öğreniminde problemler yaşamaktadır (Karaahmetoğlu ve Turan, 2020). Aynı zamanda erken okuryazarlık becerilerinin yeterince veya hiç kazanılamaması okuduğunu anlama becerileri ve ilerleyen akademik becerileri olumsuz olarak etkilenmektedir (Strickland & Riley-Ayers, 2006).

Gelişimin hızlı ilerlediği OÖ dönemde çocuklar erken okuryazarlık becerilerini geliştirmek için dil girdisine ihtiyaç duymaktadırlar (Campbell-Hicks, 2016). Çocuklarda sözel dil becerileri geliştikçe erken okuryazarlık becerileri de gelişmektedir (Zupan & Dempsey, 2013). Ancak işitme yetersizliği (İY) olan çocukların yaşadıkları işitme kaybı onların sözel dil becerilerinde gecikmeye neden olmaktadır ve

* Bu araştırma TÜBİTAK 2209-A Üniversite Öğrencileri Araştırma Projeleri Destekleme Programı 2023/1. Dönem kapsamında desteklenmiştir.

bu çocuklar özellikle dilin fonolojik (ses bilgisi), sözcük bilgisi, sesletim gibi alanlarında zorlanmaktadırlar (Nassrallah vd., 2020; Paul, 2001). İY olan çocukların dil gelişimi işiten akranlarıyla aynı süreçlerden geçse de yaşadıkları işitme sorunları nedeniyle akranlarına kıyasla dil gelişimleri geride kalabilmektedir (Yoshinaga-Itano & Apuzzo, 1998). Bu durum onların erken okuryazarlık ve okuma yazma becerilerinin edinilmesinde güçlükler neden olmaktadır (Easterbrooks vd., 2008). İY olan çocuklar işiten akranları gibi okuryazarlık etkinliklerine katılsalar da (Briggle, 2005) yeterli kadar dil girdisine ulaşamayabildikleri için sözel iletişime dayalı okuma yazma becerilerini edinmekte zorlanmaktadırlar (Hallahan & Kauffman, 2003; Piştav-Akmeşe ve Sezgin-Küçük, 2022; Tutuk ve Melekoğlu, 2019; Tutuk ve Melekoğlu, 2021).

Dil gelişimi ve erken okuryazarlık becerileri arasında güçlü bir ilişki bulunmaktadır (Strickland & Riley-Ayers, 2006). Dil gelişimi, erken okuryazarlık becerilerinin gelişiminin temellerini oluşturarak bu becerileri çocukların edinmelerini ve sürdürmelerini sağlar (Lonigan vd., 2011; Cabell vd., 2011). Bu açıdan işitme kaybı olan çocuklar aynı ana dilde okuma yazma öğrenen normal işiten akranlarıyla karşılaştırıldığında dezavantajlı konumdadır (Snow vd., 1998; Malakoff, 1988; Paul, 2001). Teknolojik gelişmeler ve erken tanılama yöntemleri sayesinde İY olan çocuklar erken tanılanmakta, cihazlandırma ve koklear implant uygulamalarıyla desteklenerek erken eğitime başlamakta ve işitsel sinyale daha iyi erişim sağlayarak normal işiten akranlarına benzer konuşma, dil ve okuryazarlık becerilerini geliştirme fırsatına sahip olsalar da (Zupan & Dempsey, 2013) okuma yazma becerilerinin olumsuz etkilendiği vurgulanmaktadır (Hallahan & Kauffman, 2003).

Türkiye’de İY olan çocukların erken okuryazarlık becerilerini inceleyen araştırmalara bakıldığında; Atlar ve Uzuner (2018), çalışmalarında OÖ dönemde bulunan İY olan bir çocuğun çevresindeki erken okuryazarlık yaşantılarını incelemişler ve İY olan bir çocuğun okuryazarlık ortamının niteliğinin erken okuryazarlığa katkıda bulunduğu ve işiten akranlarına yakın bir gelişim gösterdiği bilgisine ulaşımlardır. Karasu (2020), çalışmasında 52 aylık İY olan çocuğun erken okuryazarlık becerilerinin gelişimini incelemiş ve doğal işitsel-sözel yaklaşım eğitim ortamlarının İY olan çocukların erken okuryazarlık becerilerini geliştirdiği bilgisine ulaşmıştır. Piştav-Akmeşe vd., (2019) çalışmalarında İY olan çocuklarla işiten çocukların erken okuryazarlık becerilerini, erken okuryazarlık testiyle (EROT) değerlendirmiş, iki grup arasında anlamlı farklılıklar bulmuştur. Normal işiten ve İY olan çocukların ilkökula geçmeden erken okuryazarlık becerilerinin desteklenmesinin gerekliliğini öne sürmüşlerdir. Evrenkaya ve Ergül (2022) de yaptıkları çalışmalarında 5-6 yaş arası normal işiten ve İY olan çocukların erken okuryazarlık becerilerini değerlendirdiklerinde; erken okuryazarlık becerilerinden harf bilgisiyle ilgili iki grup arasında istatistiksel olarak anlamlı fark bulunmazken, her iki grubunda sınırlı sayıda sözcük bilgisinin olduğu saptanmıştır. Diğer taraftan; alıcı dil, ifade edici dil, alıcı sözcük bilgisi, ifade edici sözcük bilgisi ve ses bilgisel farklılık becerilerinde iki grup arasında anlamlı fark bulunmuştur. İşiten ve İY olan çocukların OÖ dönemde erken okuryazarlık becerilerinin desteklenmesinin önemi belirtilirken İY olan çocukların erken cihazlandırılmalarının gerekliliği vurgulanmıştır.

Araştırmalar İY olan çocukların erken okuryazarlık becerilerinin geliştirilmesinde içinde bulunulan çevrenin ve bu

çevreyi zenginleştiren uygulamacıların önemini gözler önüne sermektedir. İY olan çocuklar ile OÖ dönemde çalışan öğretmenlere bu noktada önemli sorumluluklar düşmektedir. Öğretmenler hem sınıflarında yaptıkları uygulamaları geliştirmeli hem de ailelere bu konuda yönlendirici ve bilgi verici olmalıdırlar. Bu bağlamda öğretmenlerin OÖ dönemde gelişim alanları ile bir bütün olan erken okuryazarlık becerilerinin gelişimi (Strickland & Riley-Ayers, 2006) hakkında bilgi sahibi olmaları önemlidir. İY olan çocukların gelişim süreçleri ile ilgili bilgiler edinmek öğretmenlerin sunduğu eğitimin niteliğini arttırabilecektir (Aslan-Bağcı ve Sarı, 2024; Briggle, 2005). İY olan çocukların normal işiten akranlarına göre erken okuryazarlık becerilerini edinmeleri geride kalabilmektedir. Bu nedenle onlar için özel eğitim (ÖE) müdahalelerinin geliştirilmesi ve uygulanması gerekmektedir (Dammeyer, 2014). İY olan çocukların erken okuryazarlık becerilerinin desteklenmesinde uygulanabilecek müdahalelerin geliştirilmesinde öğretmenlerin uygulamalarının ve görüşlerinin ortaya konmasının literatüre önemli bilgiler kazandıracağı düşünülmektedir.

Bununla birlikte alanda yapılan araştırma sayısının sınırlı olduğu da dikkate alındığında bu araştırma kapsamında elde edilen bilgiler alanda çalışan araştırmacılara ve öğretmenlere ışık tutacaktır. Bu araştırmanın amacı OÖ dönemde İY olan çocukların erken okuryazarlık becerilerinin geliştirilmesine yönelik uygulamaların incelenmesidir. Araştırmanın bu amacı doğrultusunda aşağıdaki sorulara cevap aranacaktır:

- 1) OÖ dönemde İY olan öğrencileri olan öğretmenlerin erken okuryazarlık becerileri hakkındaki görüşleri nelerdir?
- 2) OÖ dönemde İY olan öğrencilerin erken okuryazarlık süreci öğretmenler tarafından nasıl yürütülmektedir?

Yöntem

Araştırma için Sakarya Üniversitesi Eğitim Araştırmaları ve Yayın Etik Kurulu Başkanlığı’ndan 23.11.2023 tarihli, E-61923333-050.99-308501 sayılı ve 25/26 karar no’ lu etik kurul onayı alınmıştır. Etik Kurul Kararı gereğince çalışmaya katılan tüm öğretmenlerden katılımcı onam formu doldurtulmuştur.

Araştırmanın Modeli

Çalışmada incelenmek istenen İY olan öğrencilerin erken okuryazarlık becerilerini kazandırmaya ve geliştirmeye yönelik öğretmenlerin uygulamaları ve görüşleri durum olarak belirlenmiştir. Araştırmada İY olan öğrencilerle erken okuryazarlık uygulamalarını doğal ortamında gözlemlemek ve öğretmenlerin bu konu hakkındaki görüşlerini herhangi bir kontrol veya manipülasyon olmadan derinlemesine betimlemek amaçlandığından araştırma nitel araştırma desenlerinden durum çalışması deseniyle tasarlanmıştır. Durum çalışması, sınırlı bir sistemi derinlemesine betimlemek ve incelemek amacıyla kullanılır (Merriam, 2013). Durum çalışması; araştırmacının sınırlandırılmış bir zaman içerisinde bir veya daha çok durumu gözlemler, görüşmeler, görsel-işitseller, dokümanlar, raporlar gibi çoklu kaynakları içeren veri toplama araçlarıyla derinlemesine incelediği, durumların ve duruma bağlı temaların tanımlandığı nitel bir araştırma yaklaşımıdır (Creswell, 2007). Araştırmacılar birden fazla veri kaynağından veri elde ederek İY olan öğrenciler ile yapılan erken okuryazarlık uygulamalarını betimlemeyi amaçladıklarından durum çalışmasını tercih etmişlerdir.

Tablo 1. Çalışma grubunun özellikleri

Kod Adı	Cinsiyet	Yaş	Branşı	Görev Yaptığı Yer	Görüşme Yeri	Görüşme Süresi
ÖEÖ1	Kadın	37	İşitme Engelliler Öğretmenliği	Özel Eğitim Anaokulu	Öğretmenler Odası	41 dk 6 sn
ÖEÖ2	Kadın	28	İşitme Engelliler Öğretmenliği	Özel Eğitim Anaokulu	Öğretmenler Odası	34 dk 29 sn
ÖEÖ3	Kadın	35	İşitme Engelliler Öğretmenliği	Özel Eğitim Anaokulu	İdare Odası	47 dk 10 sn
ÖEÖ4	Kadın	27	Özel Eğitim Öğretmenliği	Özel Eğitim Anaokulu	Boş Sınıf	19 dk 50 sn
ÖEÖ5	Kadın	38	İşitme Engelliler Öğretmenliği	Özel Eğitim Anaokulu	Boş Sınıf	26 dk 50 sn
ÖEÖ6	Kadın	36	İşitme Engelliler Öğretmenliği	Özel Eğitim Anaokulu	Okul Yemekhanesi	18 dk 59 sn
ÖEÖ7	Kadın	28	Özel Eğitim Öğretmenliği	Özel Eğitim Anaokulu	Okul Yemekhanesi	51 dk 52 sn
ÖEÖ8	Kadın	43	İşitme Engelliler Öğretmenliği	Özel Eğitim Anaokulu	Öğretmenler Odası	1 saat 17 dk
OÖÖ1	Kadın	27	Okul Öncesi Öğretmenliği	Anasınıfı	Okul Terası	18 dk 19 sn
OÖÖ2	Kadın	32	Okul Öncesi Öğretmenliği	Anasınıfı	Öğretmenler Odası	33 dk 34 sn
OÖÖ3	Kadın	46	Okul Öncesi Öğretmenliği	Anasınıfı	Boş Sınıf	23 dk 12 sn
OÖÖ4	Kadın	29	Okul Öncesi Öğretmenliği	Anasınıfı	Boş Sınıf	29 dk 43 sn
OÖÖ5	Kadın	34	Okul Öncesi Öğretmenliği	Anasınıfı	İdare Odası	20 dk 31 sn
OÖÖ6	Kadın	27	Okul Öncesi Öğretmenliği	Anasınıfı	Öğretmenler Odası	30 dk 2 sn
OÖÖ7	Kadın	33	Okul Öncesi Öğretmenliği	Anasınıfı	Öğretmenler Odası	50 dk 7 sn
OÖÖ8	Kadın	35	Okul Öncesi Öğretmenliği	Anasınıfı	Boş Sınıf	49 dk 12 sn

Çalışma Grubu

Araştırmanın amacına yönelik ve konunun yapısını, özelliklerini temsil ederek daha yoğun veriyi elde etmek amacıyla amaçlı örnekleme yöntemlerinden maksimum çeşitlilik durum örnekleme yöntemi tercih edilmiştir. Eğer araştırmacı belirlenen bir konuyla ilgili birey çeşitliliğini amaçlamakta ise maksimum çeşitlilik durum örnekleme yöntemini tercih etmelidir (Neuman & Robson, 2014). Bu çalışmada araştırmacılar İY olan öğrencisi bulunan OÖ düzeydeki erken çocukluk ÖE okulu ve OÖ düzeyde kaynaştırma ortamı gibi farklı eğitim ortamlarında görev yapan öğretmenlerin görüşlerini ve uygulamalarını inceleyecek olduklarından maksimum çeşitlilik durum örnekleme yöntemini kullanmışlardır. Araştırma kapsamında erken çocukluk ÖE okullarından ve OÖ düzeyde kaynaştırma ortamlarından sekizer öğretmen olmak üzere toplam 16 öğretmenle görüşme yapılmıştır. Aynı zamanda araştırmacılar bu iki farklı kurum türünden sınıflarda gözlem yapmışlardır. Diğer yandan araştırmada nitel araştırmanın genelleme yapmadan tekrarlar yoluyla örnek olayı irdeleme amacı göz önünde bulundurulmuş ve bu araştırmada maksimum çeşitlilik durum örnekleme yöntemi kullanılmıştır. Bu örnekleme yöntemi, OÖ dönemdeki İY olan öğrencilerle yürütülen erken okuryazarlık çalışmalarının gözlem ve görüşme yoluyla bakış açısı oluşturma ve deneyim kazandırma işlevini yerine getireceği için tercih edilmiştir. Çalışma grubunun özellikleri Tablo 1'de verilmiştir.

Veri Toplama Araçları

Araştırmacılar, İY olan öğrencilerin erken okuryazarlık becerileriyle ilgili öğretmenlerle görüşerek, sınıf ortamlarında gözlemler yaparak veri toplamıştır. Araştırma öncesinde veri toplama araçları eş zamanlı ve birbirlerinden bağımsız protokol ile araştırma öncesinde oluşturulmuştur. Bu doğrultuda önce gözlemler sonrasında öğretmenler ile görüşmeler gerçekleştirilmiştir. Araştırmada öğretmen görüşmeleri için araştırmacılar tarafından hazırlanan yarı yapılandırılmış görüşme formu kullanılmış, gözlemler katılımsız gözlem şeklinde sistematik kayıtlar tutularak toplanmıştır. Gözlemi yapan araştırmacılar katıldıkları dersin sınıfına giderek öğrencilerin dikkatini dağıtmayacak uygun bir yere oturmuşlar, yalnızca gözlem yaparak gözlem kayıtlarını tutmuşlardır. Derse herhangi bir müdahalede bulunmamışlardır. Araştırmada kullanılan veri toplama araçlarının (yarı yapılandırılmış görüşme formu ve gözlem formu) kapsam geçerliliği için işitme yetersizliği ve erken okuryazarlık alanyazını incelenmiş ve 17 sorudan oluşan bir taslak görüşme formu oluşturulmuştur. Daha sonra bu çalışma alanlarında çalışmalarını yürüten iki akademisyenden görüşleri alınmıştır. Görüş ve öneriler doğrultusunda gerekli düzenlemeler sonucunda altı ana ve sekiz sonda sorusu olarak görüşme formu yeniden düzenlenmiştir. Taslak yarı yapılandırılmış görüşme formunun bu hâliyle iki öğretmenle pilot uygulama yapılmış ve form hakkındaki görüşleri

alınmıştır. Gerekli olan son düzeltmeler yapılarak yarı yapılandırılmış görüşme formunun altı soru ve sekiz sonda sorusundan oluşan son hâline ulaşılmıştır. Gözlem formu için nitel çalışma alanında uzman olan iki akademisyenin görüşleri alınmıştır. Gerekli düzeltmeler yapılarak formun son hâli oluşturulmuştur. Nitel araştırmanın veri toplama yöntemlerinden gözlem ve görüşmeden yararlanılarak veri çeşitliliği sağlanmış, veri toplama araçlarının güvenilirliği de artırılmıştır.

Verilerin Analizi

Araştırma kapsamında 16 öğretmenle görüşülmüştür. Görüşmeler 18 dakika ile 1 saat 17 dakika arasında değişen sürelerde gerçekleştirilmiştir. Görüşmeler öğretmenlerin görev yaptıkları okullarda sessiz bir ortamda (okulun fiziksel imkânları doğrultusunda boş bir sınıf, öğretmenler odası, okul yemekhanesi, okul terası veya idareci odasında) ve onlara uygun olan zamanlarda planlanmış ve gerçekleştirilmiştir. Veri toplama süreci 2023 yılının Kasım ve 2024 yılının Mart ayları içerisinde tamamlanmıştır. Toplam görüşme süresi 9 saat 31 dakika 56 saniyedir. Bu süreçte katılımcıların gerekli onay ve izinleri alınmış ve görüşmeler ses kayıt cihazıyla gözlemler yazılı olarak kayıt altına alınmıştır. Tüm veriler yazılı hale dönüştürülmüş ve transkripsiyon 164 sayfadır. Bu verilerden 149 koda, kodlardan 10 alt temaya ve alt temalardan 3 ana temaya ulaşılmıştır.

Araştırmada OÖ dönemdeki İY olan öğrencilerle yürütülen erken okuryazarlık çalışmalarının incelenmesi için kullanılan veri toplama tekniklerinden gözlem ve görüşmelerden elde edilen veriler içerik analizi yöntemi kullanılarak analiz edilmiştir. İçerik analizini araştırmacılar, verileri tanımlama ve verilerin içinde saklı olabilecek gerçekleri ortaya çıkarmaya çalışmak amacıyla kullanmıştır (Creswell, 2002). Bu araştırmada içerik analizinin kullanılmasının nedeni OÖ dönemdeki İY olan öğrencilerle yürütülen erken okuryazarlık çalışmalarının tümevarımsal yaklaşımla ortaya çıkarılmak istenmesidir. Bu amaç doğrultusunda nitel verilerin analizinde takip edilen aşamalar şu şekilde yürütülmüştür:

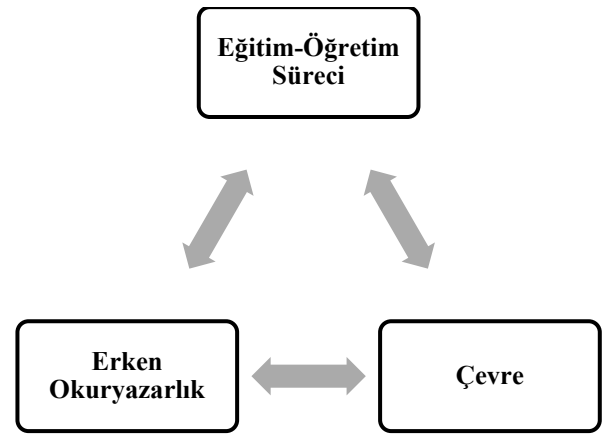
- 1) Gözlem ve görüşme verilerinin transkripsiyonu yapılmıştır.
- 2) Elde edilen veriler üçüncü ve dördüncü araştırmacı tarafından birbirlerinden bağımsız olarak çözümlenerek anlamlı bölümlere ayrılmış ve kavramsal olarak ne ifade ettiğiyile ilgili kodlar oluşturulmuş, benzerlik ve farklılıklar doğrultusunda kategorize edilmiştir.
- 3) Bu aşamada sürece birinci ve ikinci araştırmacılar dahil olarak kategorilerde anlamsal açıdan bütünlük sağlayacak şekilde kategorileri kapsayan taslak temalara, sonrasında da asıl temalara ulaşılmıştır.
- 4) Araştırmacılar tarafından belirlenen kodlar ve taslak temalar alanda uzman bir öğretim elemanı tarafından kontrol edilerek yeniden düzenlenmiş ve son hâli verilmiştir (Yıldırım ve Şimşek, 2018).

Araştırmanın geçerlilik ve güvenilirliğini sağlamak adına araştırmacılar bazı önlemler almıştır. Araştırmada kullanılacak veri toplama araçlarının (yarı yapılandırılmış görüşme formu ve gözlem formu) kapsam geçerliliği için veri toplama aracı hazırlanırken alanyazın incelenmiş, uzman görüşleri alınmış ve pilot görüşmeler sonrası gelen dönütler dikkate alınmıştır. İç geçerliliğin sağlanması için görüşme sorularını açık ve anlaşılır şekilde sormuş, gözlem verileri ayrıntılı bir şekilde toplamış, araştırmacılar kod ve kategorileri birbirlerinden

bağımsız olarak oluşturmuştur. Veri kayıtlarının gizliliği sağlanarak, katılımcıların kimlikleri gizli tutularak çalışma grubunun bilgileri detaylı olarak sunularak dış geçerlilik sağlanmaya çalışılmıştır. Farklı eğitim kurumlarından ve iki farklı branştan katılımcılar seçilerek katılımcı çeşitliliği sağlanmaya çalışılmıştır. Araştırmanın güvenilirliği için her bir aşaması detaylı olarak yazılmıştır. Araştırmada veri toplama süreci zamana yayılmıştır. Ayrıca araştırmacılar veri toplama öncesi katılımcılardan ses kaydı için izin istemiş, onay almıştır. Veri toplarken toplanan verilerin gizliliğinin sağlanacağı ve herhangi bir kişi veya kurumla paylaşılmayacağı katılımcılara beyan edilmiştir. Böylece katılımcıların samimi görüşlerine ulaşmak ve güvenilir veriler toplamak amaçlanmıştır.

Bulgular

Analizler sonucu 3 tema, 10 alt temaya ulaşılmıştır. Temalar erken okuryazarlık, eğitim-öğretim süreci, çevre olarak belirlenmiş ve Şekil 1'de gösterilmiştir.



Şekil 1: Ana temalar

Erken Okuryazarlık

Erken okuryazarlık temasıyla ilişkili olarak tanım, beceri, ön koşul ve çocuğa etkisi olarak 4 alt tema ortaya çıkmıştır. Erken okuryazarlık teması ve alt temaları Şekil 2'de görülmektedir.



Şekil 2: Erken Okuryazarlık Teması Alt Temaları

Tanım

Tanım alt teması kapsamında görüş belirten öğretmenlerin bir kısmı %13 (n=2) erken okuryazarlık kavramına dair tanımlama yaparken ilkökula hazırbuluşluk düzeyine değinmişlerdir. Araştırmaya katılan öğretmenler erken okuryazarlıkta hazır bulunuşluğu tanımlarken İY olan çocukların dili nasıl etkili bir biçimde kullanabilecekleri, kalem tutma gibi motor becerilerine yönelik yeterliliklerinin ve ses farkındalıklarının olmasının önemi ve sürecin her bir parçasının birbirleriyle ilişki içinde ve birbirini etkileyerek bütüncül olarak ilerlediğini vurgulamışlardır. Erken

okuryazarlık tanımının bir diğer önemli boyutu ise çocukların kitaplarla olan etkileşimlerinin değerlendirilmesidir %13 (n=2). Öğretmenlerin erken okuryazarlık kavramına ilişkin net bir tanımlama yapmaktan ziyade erken okuryazarlığın özelliklerini dile getirerek tanımlama yaptıkları görülmüştür. Bu konudaki öğretmen görüşleri şöyledir:

“Erken okuryazarlık deyince aklıma çocuğun hazırbulunuşluk düzeyi geliyor... Bence çocuğun her açıdan hem zihinsel hem kalem tutmak hepsi için, bence bütüncül yani.” (OÖÖ 3)

“Erken okuryazarlık dediğimiz zaman çocuğun okumaya ilişkin ön becerilerinden bahsediyoruz. Bir kitabı tutuşu, sayfaları çevirisi ondan sonra çocuğun kendi başına kitabı alışı bile erken okuryazarlık dönemi altında toplayabiliriz.” (ÖEÖ7).

Ön Koşul

Erken okuryazarlık becerilerine dair katılımcılar görüşlerinde 29 farklı ön koşul becerisine yer vermişlerdir. İçlerinde en çok değinilen ön koşul becerileri kavram tanıma %19 (n=3), sesleri ayırt etme %19 (n=3) ve kalem kullanma %19 (n=3) olarak belirlenmiştir. İlgili önkoşullara ait öğretmen görüşlerinden bir kesit aşağıda yer almaktadır.

“Ön koşulu ses farkındalığı olabilir. Çocuğun heceleri sesleri birleştirmeyi öğrenmesi, ayırt etmesi seslerin farkına varması ön koşul olabilir.” (OÖÖ4)

Erken okuryazarlık becerileri için öğretmenlerce en çok tanımlanan ve değinilen bu önkoşulların büyüme ve olgunlaşma gibi gelişimsel yeterliliklerle ilişkili olmakla birlikte çocuğun günlük yaşamında ilgili yaşantılara maruz kalması yoluyla bu önkoşullara sahip olması için çevresel etmenlerin de pay sahibi olduğu unutulmamalıdır. Ayrıca İY olan öğrenciler için erken okuryazarlık becerilerinin gelişmesinde; erken teşhis, erken cihazlandırma, cihazlardan verim alma, erken aile eğitimi gibi çocuğun gelişimini ve eğitim sürecini büyük ölçüde etkileyen önkoşullar da yer almaktadır. İlgili önkoşullara ait öğretmen görüşlerinden bir kesite aşağıda yer verilmiştir.

“Erken okuryazarlığın ön sıralamasında önce aile eğitimi gelir. İşitme engellilerden yola çıkarsak eğer bebeklik döneminde erken cihazlandırma ve erken teşhis koymanın çok önemli olduğunu hepimiz biliyoruz.” (ÖEÖ8)

Bir diğer önemli husus erken okuryazarlık becerilerinin gelişmesi için çocuğun psiko-motor gelişiminin normal gelişim gösteren akranlarıyla benzer seyrediyor olmasıdır. Araştırmaya katılan öğretmenlerce çocuğun gelişim dönemine uygun ilgili becerilere sahip olması erken okuryazarlık becerilerinin ön koşulu olarak görülmektedir. Bu kapsamda temel becerileri yapabilmek, ince motor becerilerinin yeterliliği, bilişsel ve motor hazırbulunuşluk, duyu organları, zihinsel yeterlilik öğretmenlerin önkoşul olarak ele aldıkları kavramlardır. Benzer şekilde doğumla başlayan kitap etkileşimine değinen öğretmenler %13 (n=2), çocukların kitapları tutması, sayfaları çevirmesi gibi motor becerilere sahip olmasını birer ön koşul becerisi olarak tanımlamışlardır. Bu konuyla ilgili öğretmen görüşlerine aşağıda yer verilmiştir.

“... işte o zamana kadar hiçbir şekilde kitap görmemiş bir çocuğun eline kitap verdiğiniz zaman ilk kez karşılaştığı için maalesef ki tepkisi olmuyor. Yani yaşlarda aynı dahi olsa haşır neşir olanla olmayan arasında psikomotor anlamında çok farklılık oluyor.” (ÖEÖ7)

Erken okuryazarlık becerileri için belirtilen ön koşul becerileri aynı zamanda erken okuryazarlığı tanımlamak için de kullanılmıştır. Tanım alt temasında yer alan sonuçlara göre

araştırmaya katılan öğretmenlerin erken okuryazarlık kavramını oluştururken aslında anlatımlarında ön koşul becerilerine yer verdikleri görülmüştür.

Beceri

Beceri alt temasında öğretmenler tarafından OÖ dönemde İY olan çocukların erken okuryazarlık becerilerinin geliştirilmesi için farklı çalışmalar yapıldığı ifade edilmiştir. Yapılan çalışmalar, erken okuryazarlık becerilerini desteklemek için çocukların bireysel özelliklerine göre şekillenmektedir. Öğretmenlerle yapılan görüşmelere istinaden OÖ dönemdeki İY olan çocukların erken okuryazarlık becerilerinin geliştirilmesi ve desteklenmesi için çocuklarla sırasıyla; yazı farkındalığı %44 (n=7), ses bilgisel farkındalık %38 (n=6), görsel okuma %25 (n=4) ve harf bilgisi %25 (n=4) en çok çalışılan becerilerdir. Bu bulguları destekleyen ÖE öğretmenlerinden birinin görüşü şöyledir:

“...Mesela bir hikâye kitabı bakarken yaptığımız çalışmalar görsel okumadır. Ondan sonra oradaki yazıları okumamızdır...Erken okuryazarlık çocuk ne kadar çok yazıları erken görürse harf bilgisi o kadar çok gelişmiş olur. Yazı bilgisi o kadar gelişmiş olur. Bu da erken okuryazarlık becerilerine katkı sağlar.” (ÖEÖ3)

OÖ dönemde hikâye etkinliklerinin önemi ve öğretmenlerce en çok çalışılan bu becerilere çok yönlü katkısının olması göz önüne alındığında hikâye etkinliklerinin artırılması ve özellikle bu etkinliklere OÖ dönemdeki İY olan öğrencilerin dahil edilmesi araştırmaya katılan öğretmenler tarafından erken okuryazarlık becerilerini desteklemek için sıkça değinilen durumlardır. Aşağıda öğretmen görüşlerine bir örnek sunulmuştur.

“Yani her gün mesela hikâye saatine yer veriyorum. Çocuğu muhakkak bana yakın bir yere oturtuyorum genelde her hikâyede ona soru sormaya dikkat ediyorum... Şu anda dil üzerine etkinliklerde daha çok yer veriyorum.” (OÖÖ5)

Yukarıdaki öğretmen görüşlerini destekleyen gözlem kayıtlarından birer kesit aşağıda sunulmaktadır.

“İY olan 4 çocuğu öğretmenler masaya oturtular. Bir öğretmen raftan kitap getirdi. Masada çocukların karşısına geçti. Öğretmen “evet çocuklar kitap saatimiz geldi. Herkes kitap okumak için hazır mı?” diye sordu. Sonra öğretmen kitabın kapağını göstererek “bugün ki kitabımın ismi yaban ördekleri” diye söyledi. Öğretmen kitabın yazarının ismini ve yayınevini de parmağıyla işaret ederek çocuklara gösterdi. Öğretmen kitabı okumaya başladı. 2 sayfa okuduktan sonra bir çocuğa sayfadaki resme bakarak ördeğin ne yaptığını sordu. Çocuk, ördek suya bakıyor cevabını verdi. Öğretmen “evet ördek şimdi suya bakıyor, suda yüzmeye gidecek. Peki siz daha önce suda yüzen ördek gördünüz mü?” diye sordu. Bir çocuk gördüğünü söyledi. Diğer çocuklar cevap vermediler. Öğretmen ördek gördüğünü söyleyen çocuğa nerede gördüğünü ve ördeğin hangi renk olduğunu sordu... (ÖE anaokulu gözlem kaydı, 29.03.2024).

Öğretmenlerin görüş ve uygulamalarına göre erken okuryazarlık becerilerini desteklemek için en etkili yollardan birinin etkileşimli kitap/hikâye okuma etkinlikleri olduğu sonucuna ulaşılmaktadır. Kitap/hikâye etkinliği sayesinde çocukların kitaplardaki harfleri görerek harf farkındalığı kazanmaları, sesli bir şekilde okunan kitabı dinleyerek ses bilgisel farkındalığı ve işitsel farkındalığı kazanmaları, kitabı eline alıp sayfaları çevirerek resimlere bakması ve görsellerden hikâye oluşturması, dinlediğini anlaması ve olayı

sırasıyla anlatması gibi becerileri geliştirmede katkı sağlayarak erken okuryazarlığı destekleyecek çok yönlü bir çalışma olduğu için öğretmenler tarafından tercih edilmektedir.

Çocuğa Etkileri

Öğretmenler erken okuryazarlık becerilerinin gelişmesinin çocuklarda en fazla özgüvenlerine katkı sağladığını belirtmiştir %44 (n=7). Yetersizliğe sahip bireylerin olumlu benlik algısı, özgüven, öz yeterlilik gibi kendilerine dair değer yargılarının bireysel ve toplumsal birçok nedenin de etkisiyle negatif yönde etkilenebilme ihtimali göz önüne alındığında, erken okuryazarlık becerilerinin, gelişim dönemi ve bireysel farklılıkları da yadsınmadan desteklenmesi ve çabasının dahi pekiştirilmesi, çocuğa başarı duygusu ve yeterlilik hissettirerek özgüven gelişimine ve olumlu benlik algısına katkı sağlamaktadır. Bu konuyla ilgili öğretmen görüşlerinden kesitlere aşağıda yer verilmiştir.

“Yani çocuk daha dikkatli oluyor. Daha özgüvenli oluyor. Çünkü yaşutlarının bilmediği bir şekilde çıkıyor. Yani daha ayrıntıları fark eden bir çocuk haline geliyor.” (ÖEÖ5)

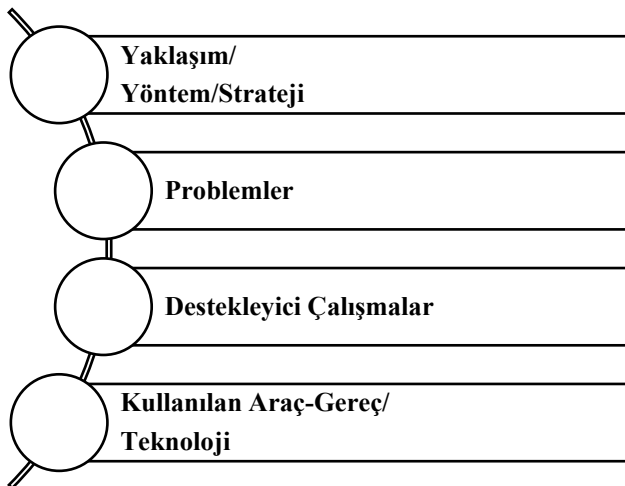
“Çocuk akranlarıyla birlikte öğrenirse özgüveni yerine gelir kendisini yetersiz hissetmez. Bu durumda özgüvene bağlı sosyalleşme problemleri yaşamayabilir.” (OÖÖ6)

Ayrıca erken okuryazarlık becerileri ilerideki akademik yaşantının ilk adımı kabul edilirse çocuğun ilgili becerileri edinmesinin akademik başarıya olumlu katkıda bulunması, kendini daha rahat ifade edebilmesi ve akranlarıyla iletişim becerilerini geliştirmesi gibi akademik ve sosyal katkıları da bulunmaktadır. Öğretmenlerce en çok değinilen ikinci etki olan akademik başarıya katkıyla %19 (n=3) ilgili öğretmen görüşlerinden bir kesite aşağıda yer verilmiştir.

“Erken okuryazarlık geliştiğinde kalem tutma becerisini zaten kazanmış olur. Yazı farkındalığı kazanmış olur. Bir nesneye bakarken bence dikkati artar. Çünkü harflerle sesleri ayırt edebildiği için artık veya etkinliklere alıştığı için odaklanması veya masa başı etkinlikleri yapmak bence daha kolay olur. Bunun akademik başarıya katkı sağlayacağını düşünüyorum” (OÖÖ4)

Eğitim- Öğretim Süreci

Eğitim-öğretim süreci temasıyla ilişkili olarak yaklaşım/yöntem/strateji, problemler, destekleyici çalışmalar ve kullanılan araç-gereç/teknoloji olarak 4 alt tema ortaya çıkmıştır. Eğitim-öğretim süreci teması ve alt temaları Şekil 3'te görülmektedir.



Şekil 3: Eğitim-Öğretim Süreci Teması Alt Temaları

Yaklaşım/Yöntem/Strateji

Eğitim-öğretim sürecinde öğretmenlerin çeşitli yöntem ve yaklaşımlar kullanmakla birlikte kullandıkları yöntemleri isimlendirmede ve/veya tanımlamada zorlandıkları görülmüştür. Görüşme yapan araştırmacı zaman zaman destekleyici sorular yönelterek araya girmiş ve öğretmenler bu sayede yöntemi tanımlayabilmiştir. Elde edilen verilere göre öğretmenlerin %38 (n=6) model olma tekniği ve doğal işitsel sözel yaklaşımı tercih ettiklerini belirtmişlerdir. Alanyazında belirtilen birçok yöntemin aşamalarından biri olan model olmanın öğretmenler tarafından en çok tercih edilen tekniklerden biri olması, İY bireylerin öğrenme sürecindeki verimine dikkat çeken önemli bir bulgudur. Araştırmaya katılan öğretmenlerin çoğunun erken cihazlandırmanın ve doğal ortamın önemine dikkat çekmesi, öğretimde bu yöntemin çoğunlukla tercih edilmesini destekler niteliktedir. Model olma ve doğal işitsel sözel yaklaşıma ait öğretmen görüşlerinden kesitlere aşağıda yer verilmiştir.

“...yani gösterip yaptığımda daha mantıklı. Siz söylüyorsunuz çocuk taklit ediyor sizi...Model olmayla daha iyi öğreniyorlar.” (ÖEÖ5)

“...doğal işitsel sözel yöntemde de çocuğun doğal ortamında yahut doğal ortama benzer ortamlar oluşturarak o çocuğa dil yetilerini kazandırmaya çalışıyoruz. Bu da doğal olarak erken okuryazarlığını desteklemeyi sağlıyor.” (ÖEÖ 8)

Öğretmenler tarafından ikinci sırada en fazla tercih edilen %19 (n=3) yaklaşımların ise oyun temelli etkinlikle görsel kartların kullanılması ve sözel yaklaşım olduğu belirlenmiştir. Öğretmenler, OÖ dönemin eğitim-öğretim sürecinin ilk basamağı olması ve ilk çocukluk döneminde oyunun birey için tüm gelişim alanlarına çeşitli katkılarının yanında ileriki yaşamı için prova niteliği taşıması, öğrenme sürecinde oyun temelli etkinliklerin bir yöntem olarak tercih edilmesinin önemine dikkat çekmektedir. Bunun yanında gelişim dönemiyle yetersizlik türü göz önüne alındığında, birden fazla duyuşsal girdi sağlayan görsel kartlarla birlikte gerçekleştirilen sözel yaklaşım öğretmenlerce verimli bulunan bir diğer yöntemdir. İlgili öğretmen görüşlerinden kesitlere aşağıda yer verilmiştir.

“Şimdi eğer çocuk okul dönemi, yani ilkökul döneminden küçükse OÖ çağındaysa bir kere en güzel yaklaşım, oyun temelli en güzel oyun temelliden biz ilerliyoruz.” (OÖÖ3)

“Yani ifade ederek ve göstererek ben çocuklarla çalışmalar yapıyorum erken okuma yazma becerileri için. Yani söylediğimi gösterme görselleştirmeye çalışıyorum.” (OÖÖ2)

Problemler

OÖ dönemdeki İY olan çocukların erken-okuryazarlık becerilerinin geliştirilmesine dair eğitim-öğretim sürecinde öğretmenlerin karşılaştıkları başlıca problem %44 (n=7) aile kaynaklı sorunlardır. Aile faktörünün, insan yaşamının çevreye daha çok bağımlı olduğu ilk dönemlerindeki önemi düşünüldüğünde yetersizliğe sahip bireylerin eğitim sürecindeki yeri daha da belirginleşmekte ve sürecin şekillenmesinde büyük bir etki oluşturmaktadır. Araştırmaya katılan öğretmenler eğitim-öğretim sürecinin sağlıklı ve verimli bir şekilde yürütülmesinde aileyle iş birliğinin önemini vurgulamakla birlikte karşılaşılan zorlukların süreci olumsuz etkilediğini ve zorlaştırdığını çeşitli örneklerle belirtmişlerdir. İlgili öğretmen görüşlerinden kesitlere aşağıda yer verilmiştir.

"Aile eğitimi çok önemli. Gerek rehabilitasyonlarda bunların eğitimlerinin verilmesi gerekse okullarda bunların yapıyor olması çok değerli. Ancak düşük sosyo-ekonomik düzeydeki velilerle haşır neşir olduğumuzda velinin tek derdi maalesef çocuk olmayabiliyor. Geçimini sağlamaya çalışmakta olabiliyor. O yüzden veliyi okula getirmek ona o eğitimi vermek zaman ayırmasını istemek çok güç olabiliyor. Bu aslında sistemdeki en büyük zorluk diyebilirim." (ÖEÖ7)

Bunu takiben en sık karşılaşılan problemlerin çocuğun ses çıkartamaması (n=4), cihazdan kaynaklı sorunlar (n=3) ve materyal/teknoloji yetersizliği (n=3) olduğu belirtilmiştir. İlgili verilerden anlaşılacağı üzere bireysel farklar, çevresel etmenler ve imkanlar da çocuğun eğitim sürecinde önemli bir yere sahiptir. Bu problemlere dair öğretmen görüşlerinden kesitlere aşağıda yer verilmiştir.

"...diyorum ya çocuğun böyle yapısal olarak mesela onu çıkartıp çıkartmaması konusunda, yani kelimeyi harfi. Hani bu anlamda çocuğun kendi bireysel özellikleri birazcık da tabiki de bu durumla karşılaşmama sebep olabiliyor." (ÖÖÖ4)

"...Çocuğun cihazının pili bitmiştir mesela aile ilgilenmemiştir çocukla, çocuğu öylece göndermiştir. O zaman ben sıkıntı yaşarım. Eğer kurumda da pil yoksa o gün o çocukla ne yapabilirsin?" (ÖEÖ3)

"Yani daha çok işitmeyle ilgili projeksiyonlarla görsel ve duyuşal hoparlörle şarkılar eşliğinde hem rontlar tarzında gösteriler tarzında yapılabilir. Çalışmalarımız olabiliyor ama şu anda bu okulda bulunan mevcut değil, yetersiz biz kendi imkanlarımızla telefonda açtığımız ve Hoparlöre verdiğimiz kadarıyla. Olan koşullar bu okul için yeterli değil." (ÖÖÖ1)

Bu konuda öğretmen görüşlerini destekleyen bir gözlem kaydından alıntı aşağıda verilmiştir.

"Günün ilk ders saatiydi. Öğretmenler çocukları sınıfa getirdiler. Çocuklar sınıfa oynamaya başladılar. Bir çocuk dolabın kapağını açtı. Öğretmen çocuğa dolabı kapatması için seslendi. Çocuk öğretmene bakmadı ve dolabı karıştırmaya başladı. Öğretmen çocuğa seslenmeye devam etti. Çocuk öğretmeni hiç duymuyordu. Öğretmen "galiba bunun cihazının pili bitti yine bugün ne yapacağız acaba bu çocukla" dedi. (ÖE anaokulu gözlem kaydı, 28.03.2024).

Destekleyici Çalışmalar

İY'ne sahip OÖ dönemindeki çocukların erken okuryazarlık becerilerinin geliştirilmesine dair sürdürülen eğitim-öğretim sürecinin verimini arttırmak adına araştırmaya katılan öğretmenlerin tercih ettikleri destekleyici çalışmalar incelendiğinde, öğretmenlerin otuz farklı türde çalışmadan yararlandıkları tespit edilmiştir. Öğretmenlerin yararlandıkları çalışmaların yelpazesinin geniş olması eldeki imkanları işlevsel kullanma çabası ve en üst düzeyde verim elde etme arayışıyla ilişkili olduğu düşünülmektedir. Elde edilen verilere göre ses çalışmaları destekleyici çalışmaların içinde en fazla tercih edilenidir %63 (n=10) ve katılımcılarla yapılan görüşmelerde, eğitim hizmeti verilen yetersizlik türüne özgü ihtiyaçlarla doğru orantılı şekilde öğretmenler özellikle ses girdisiyle ilgili çalışmaların önemine değinmişlerdir.

"...dediğim gibi destekliyorum. Nasıl destekliyorum? Çocukla ilk çalışmaya başladığımda günlük hayatta duyabileceği sesler, tekrar eden sesler en basiti bir su sesi, kedi köpek sesi bu tarz seslerin farkındalığını yaratmak

için önce bu tarz sesleri çalışıyorum. ... Öncelikle ses farkındalığını oluşturmak için..." (ÖÖÖ4)

Ses çalışmalarına takiben oyun %50 (n=8) ve şarkı/ritim %44 (n=7) çalışmaları gelmektedir. Özellikle erken çocukluk döneminde oyunun önemi göz önüne alındığında öğretmenler öğretim sürecini oyun etkinlikleriyle daha verimli hale getirdikleri, şarkı etkinlikleriyle de OÖ dönemdeki işitme yetersizliğine yönelik sunulan eğitimin öğrenmeyi ve öğrenilenlerin hatırlanmasını kolaylaştırarak verimini arttırdığı belirtilmiştir. Oyun ve şarkı/ritim kodlarına dair öğretmen görüşlerinden kesitlere aşağıda yer verilmiştir.

"İşitme engelli çocuklar için de oyunun faydası kesinlikle vardır. ...Yani bir yağ satarım bal satarım oynuyorsak bile kitaptan resmini, oyunun isminin yazılı olduğu bir kart gösterip şimdi sizinle bu oyunu oynayacağız deriz." (ÖEÖ6)

"Ondan sonra çok basit düzeyde ritim çalışmaları yaptık onunla. İşte ben ona kalemler buluyordum önümüze defter koyuyorduk. Ben de koyuyordum aynı sırada çıkardığım sesleri çıkarmasını istiyordum elimizde de yapıyorduk. Onlar Biraz faydalı oluyordu işitsel anlamda desteklemek için." (ÖÖÖ7)

Bu konuda öğretmen görüşlerini destekleyen gözlem kayıtlarından alıntılar aşağıda sunulmaktadır.

"Öğretmen çocuklara yerdeki oyuncakları toplattıktan sonra mavi bir dosyadan bir kart çıkardı. Çocuklara kartı göstererek "sizinle şimdi bu kartta görseli olan top atmaca oyununu oynayacağız" dedi ve karttaki topa aynı renkte olan bir topu eline aldı. Çocukları karşısında bir sıraya dizdi ve "topu eline alan arkadaki arkadaşına topu dönüp atacak ve attım diye söyleyecek" dedi. Öğretmen sıranın başındaki çocuğa topu verdi ve oyunu oynatmaya başladı (ÖE anaokulu gözlem kaydı, 05.04.2024).

"Çocuklar çember şeklinde yere oturdular. Öğretmen çocuklara ritim çubuklarını dağıttı. Sonra öğretmen masasındaki resimli kartları aldı. Kartlardaki resimlerin altında resimdeki nesnelerin isimleri yazıyordu. Öğretmen şimdi çocuklar sizinle sözcüklerle ritim oyunu oynayacağız dedi. Öğretmen kartlar arasından üzerinde kelebek olan bir kartı seçti ve çocuklara "bu kartta ne olduğunu bilen var mı?" diye sordu ve çocuklar kelebek diye söylediler. Öğretmen şimdi kelebek kelimesini çubuklarımızla heceleyeceğiz dedi. Öğretmen ke-le-bek diye heceleri ayrı ayrı söyledi ve elindeki çubukları her bir hecede yere vurdu. Çocuklar da öğretmeni taklit ettiler. (Kaynaştırma sınıfı gözlem kaydı, 28.03.2024)

Ayrıca hikâye kitabı okuma %31 (n=5), dil/konuşma çalışmaları %31 (n=5) ve aileyle iş birliği %25 (n=4) öğretmenlerce çoğunlukla tercih edilen diğer destekleyici çalışmalar olmuştur. OÖ dönemde özellikle yazı farkındalığı, hayal gücü, konuşma gibi becerilerin gelişmesine katkısı olan hikâye okuma çalışmalarının etkileşimli olarak sunulması ve ailenin de sürece dahil edilmesi verimi arttıracak etmenlerden olduğu öğretmenler tarafından belirtilmiştir.

Kullanılan Araç-Gereç/Teknoloji

Öğretmenler erken okuryazarlık çalışmalarında kullanılan araç-gereç ve materyallerin yetersiz olmakla birlikte çevre düzenlemesi ve sınıf içindeki malzemelerin işlevsel değerlendirilmesi ve öğretmenlerin bireysel çaba ve istekleriyle verimin arttırılmaya çalışıldığı ifade etmişlerdir. Eğitim-öğretim sürecinde öğretmenlerin bir kısmı %38 (n=6) hikâye kitaplarını kullanmakta olduklarını belirtmiştir.

"Bir haftalık bir kitabım var. Hafta sonu ben onlara bir video gönderiyorum. Hikâye kitabını okuyup seslendiriyorum. Resimleri yakından kamerayla çekiyorum. Hafta sonu dinliyorlar onu. Hafta içi bu hikâyeye ilgili dil etkinliklerini yapıyorum. Bir derste hikâyeyi tekrar dinliyoruz. Diğer dersimizde hikâyenin sorularına cevap veriyoruz. Diğer dersimizde hikâyeyi canlandırıyoruz. Diğer dersimizde ise hikâyenin içeriğiyle alakalı ya drama yapıyoruz ya izler etkinlik yapıyoruz varsa gezi yapıyoruz." (ÖEÖ8)

Bu öğretmen görüşünü destekleyen gözlem kaydından bir parça aşağıda sunulmaktadır.

"Kitap okuma bittikten sonra öğretmen çocuklara kitabı canlandırabileceklerini söyledi. Kitaptaki olayları öğretmen tekrardan kısaca anlattı. Çocuklara kitaptaki karakterlerle ilgili roller dağıttı. Canlandırma sırasında öğretmen çocuklara kitaptaki olayları tekrar hatırlatmaya çalıştı... (Kaynaştırma sınıfı gözlem kaydı, 28.03.2024).

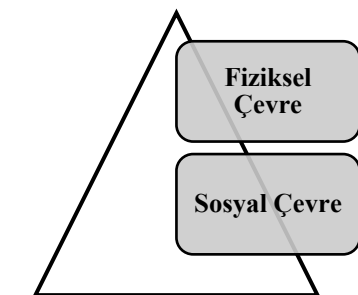
Bunun yanında oyuncak %31 (n=5) ve görsel kartlar %31 (n=5) sıkça kullanılan diğer araç-gereçlerdir. Teknolojiden yararlanılmasına dair ise şarkı %19 (n=3) ve ses hissetme videoları %6 (n=1) için zaman zaman kullanıldığını belirtmişlerdir.

"...sınıfta İY olan öğrenci olmadığı zaman daha farklı ama bundaki dediğim gibi kullanılan materyal daha çok işitsel ama işitselden ziyade görsel çok kullanıyoruz. Aslında biz görselimizde posterler, resimli kartlar." (ÖEÖ1)

Öğretmenler, sıklıkla hikâye kitapları, oyuncaklar ve görsel kartları OÖ dönemdeki İY olan çocukların bilişsel, sosyal, duygusal, psikomotor gelişimlerine çok yönlü katkı sunmak ve sürecin daha verimli hale getirilmesi için tercih etmektedirler. Bunun yanında öğretmenlerin çağın imkân ve gerektirdiği becerileri takip etmeleri ve gerekli koşullar sağlandığı takdirde teknolojik imkanlardan yararlanmaları ve İY olan çocukların sınırlı dikkat sürelerinden doğan dezavantajları minimuma indirebilecekleri sonucuna ulaşılabilir.

Çevre

Bu çalışmada çevre şartlarının OÖ dönemdeki İY olan öğrencilerin erken okuryazarlık becerilerinin geliştirilmesi ve desteklenmesinde önemli bir yere sahip olduğu ortaya çıkan diğer bir bulgudur. Çevre teması, fiziksel çevre ve sosyal çevre olmak üzere iki alt temaya ayrılmıştır. Fiziksel çevrede okul ve sınıf imkanlarının yeterli olmadığı, teknolojik imkanların yeterli olmadığı ve erken okuryazarlık becerilerinin desteklenmesi için materyal eksikliklerinin çok fazla olduğu sonucuna ulaşılmıştır. Sosyal çevrede ise aileyle yapılan iş birliği, çocukların erken okuryazarlık becerilerinin gelişmesi için oldukça önemli bir sonuç olarak ortaya çıkmaktadır. Çevre teması ve alt temaları Şekil 4'te gösterilmiştir.



Şekil 4: Çevre Teması Alt Temaları

Fiziksel Çevre

Fiziksel çevrede OÖ dönemdeki İY olan çocukların en çok ihtiyaç duydukları fiziksel etmenin materyal eksikliklerinin giderilmesi %31 (n=5) olduğu görülmüştür. Materyal yetersizliklerinin yanı sıra teknolojik imkanların yetersizliği %31 (n=5) de önemli bir sonuç olarak ortaya çıkmıştır. Bu konudaki öğretmen görüşlerine bir örnek görüş aşağıda sunulmuştur.

"...Okulda imkân yok. Teknolojinin uygulamalarını kullanamıyoruz zaten. Bir akıllı tahtamız yok veya renkli çıktı imkânımız yok." (OÖÖ1)

OÖ dönemde sınırlar ve kuralları öğrenme, dikkat süresi, gelişim dönemine uygun olarak tüm alanlara yönelik beceriler gibi birçok dikkat edilmesi gereken durum bulunmaktadır. Bunlar göz önüne alındığında materyal çeşitliliği ve teknolojik imkanlar kritik öneme sahip olmakta, eksikliği eğitim sürecinin verimini ve öğretmen motivasyonunu olumsuz etkilemektedir. Bir de öğrencilerin bir yetersizliğe sahip olduğu düşünüldüğünde uygun koşullar sağlanmazsa süreç daha da zorlaşmaktadır.

Araştırmaya katılan öğretmenlerden teknolojik imkanlardan yararlanabilenler genellikle şarkılar, videolar eşliğinde ders yaptıklarını belirtmişlerdir. Materyal eksikliğinin fazla olduğunu belirten öğretmenlerin yanı sıra hem okuldaki imkanların iyi olduğunu hem de materyal konusunda herhangi bir eksiklik yaşamadıklarını belirten öğretmenler de vardır.

"...İyi olduğunu düşünüyorum. Materyal açısından yeterli." (ÖEÖ4)

OÖ dönemdeki İY olan öğrencilerin erken okuryazarlık becerilerini geliştirmek için farklı materyaller kullandığını belirten katılımcılar da vardır. Bunlar içerisinde en sık tercih edilenler ise kitaplar ve görsel kartlardır. Ayrıca İY olan çocukların dinleme becerilerinin gelişmesi için müzik aletleri, ritim çubukları, sesli oyuncaklar kullanılmaktadır. Bu konudaki öğretmen görüşleri aşağıda belirtilmiştir.

"Çokça kiti, kart, eğitim seti kullanıyoruz. Dil konuşma setlerinin büyük çoğunluğunu kullanıyoruz." (ÖEÖ2)

Erken okuryazarlık becerilerinin desteklenmesinde teknoloji kullanımı ise önemli olan bir diğer fiziksel çevre etmenidir. Bu konuda görüşlerini belirten öğretmenlerin çoğu %63 (n=10) erken okuryazarlık becerilerinin desteklenmesi için imkanlar elverişsiz olduğundan teknolojiden yararlanamamaktadır. İlgili öğretmen görüşlerinden kesitlere aşağıda yer verilmiştir.

"MEB'ından talebimiz teknolojiyi sınıflara getirmesi. ... çocuk zaten teknoloji çocuğu, her şeye hâkim ama okulda oyuncak, kalem, kâğıt bunları görüyor. Aslında bunlar değil onun hayatı. ...her çocuğun özel defteri ayrı, tabletinin ayrı olması gerekiyor." (OÖÖ8)

Fiziksel çevre kapsamında bir diğer önemli unsur da OÖ sınıflarının kalabalık olmasıdır. Sınıf mevcudunun kalabalık olması sonucunda öğretmen o sınıfta eğitim gören İY olan öğrencilerin eğitimleri için gerekli süre ve ilgiyi sağlamak konusunda yetersiz kalmaktadır.

"Sınıf ortamında bu tarz çocuklar varsa öncelikle sınıf sayısının bunu dikkate alarak yapılması gerekiyor." (OÖÖ2)

Ayrıca araştırmaya katılan OÖ öğretmenlerinin kendilerine süreç boyunca hem sınıfta hem de danışmanlık hizmeti olarak ÖE öğretmenlerinin yardımcı olmasını beklediklerini de ifade etmişlerdir.

Sosyal Çevre

OÖ dönemde İY olan çocukların erken okuryazarlık becerilerinin geliştirilmesinde öğretmenleri en çok etkileyen sosyal çevre faktörünün aile %75 (n=12) olduğu tespit edilmiştir. Görüşme yapılan öğretmenlerin çoğu %38 (n=6) özellikle aileyle iş birliğinin önemini vurgulamıştır. İlgili öğretmen görüşlerinden kesitlere aşağıda yer verilmiştir.

“Aile diyelim ki ekonomik olarak sosyal kültürel olarak eğer biraz düşük seviyedeysen çocuğu zaten bir kere bizim toplumda o çocuk pek görülüyor. Hemen ikinci, üçüncü çocuk arayışlarına giriliyor. O çocuk daha çok izole ediliyor. Yani daha çok onu muhtaç duruma düşürüyorlar. Aile çocuğunu topluma katmayı, eğitime katmayı bilse çok yol kat eder. Ailenin rolü tabii çok önemli ama ailenin bulunduğu şart da çok önemli. Ailenin bilgisi tecrübesi bu konuyla ilgili.” (OÖÖ3)

“...hani böyle ilerlemeleri aile gördükçe ve benden olumlu dönütler alınca tabii mutlu oluyor ve daha çok eğitime yaklaşıyor açıkçası benim dediklerimi hemen yapıyor veya mesela şunu yapın deyince hemen tamam hocam yapalım, ilerlediğini gördükçe onlar da mutlu olarak devam etmesini istiyorlar eğitime...” (OÖÖ5)

Özel gereksinimli bireylerin bağımsız yaşam becerilerini kazanması, optimal eğitimi alması ve erken müdahalenin önemi de göz önüne alındığında sürecin en aktif bileşenlerinden biri olan aile kilit bir rol üstlenmektedir. Buna dair ilgili öğretmenlerin iletişim ve etkileşim becerilerinin yanı sıra tecrübe ve deneyimlerini aileyle paylaşmasının, eğitime dair geri dönütler vermesinin aileyle iş birliğini etkileyen etmenlerden olduğu görülmektedir.

Tartışma ve Sonuç

Bu çalışmada öğretmenler erken okuryazarlığı tanımlarken okula hazırbulunuşluluğa yönelik olarak, dili etkili kullanmaya, kalem kullanma gibi motor becerilere ve ses farkındalığına değinmişlerdir. Yaşamın erken dönemlerinde kazanılması beklenen beceriler arasında olan erken okuryazarlık becerilerini, Satı-Çalış ve Feyman-Gök (2020) tarafından okuma yazma öğretimi öncesi kazanılması beklenen beceriler olarak tanımlanmıştır. Bu çalışmada da öğretmenler erken okuryazarlığı yaşamın erken yaşlarında başlayan, onların hazırbulunuşluk düzeyini arttıran ön akademik beceriler olarak tanımlamışlardır. Bu çalışmada öğretmenler erken okuryazarlık becerilerinden bahsetmektedir ancak öğretmenlerin görsel okuma, görselleri anlatma becerilerini dile getirmesiyle alanyazından farklılık göstermektedir. Çalışmanın bulgularına göre öğretmenlerin İY olan çocukların sahip olduğu özelliklerden dolayı görsel okuma ve anlatma becerilerinin erken okuryazarlık becerileri içerisinde değerlendirdikleri düşünülmektedir. Aslan-Bağcı ve Sarı (2024) çalışmalarında işitme kaybından dolayı çocukların dil ve akademik becerilerinin etkilendiği sonucuna ulaşmışlardır. Strickland & Riley-Ayers (2006) çalışmalarında dilin erken okuryazarlık ve okuma becerisinin temeli olduğunu belirtmişlerdir. Piştav-Akmeşe ve Sezgin-Küçük (2022) ise dil becerilerinin akademik beceriler için belirleyici olduğundan bahsetmişlerdir. Dammeyer (2014) ise dil becerilerinin İY olan çocukların okuryazarlık becerilerinde etkili olduğunu belirtmiştir. Runnion & Gray (2019) çalışmalarında sözel dilin okumaya hazırlanmada önemli olduğu sonucuna ulaşmışlardır. Rohde (2015) ise çalışmasında sözel dili temel erken okuryazarlık becerisi olarak belirtmektedir. Yapılan bu çalışmada da sözel dil

becerilerinin erken okuryazarlık becerisi olarak bahsedilmesi, alanyazındaki diğer araştırma bulgularıyla tutarlılık göstermektedir.

Çalışmaya katılan öğretmenler erken okuryazarlığın birçok önkoşulu olduğunu belirtmişlerdir. Öğretmenler, İY olan çocukların erken okuryazarlık becerilerinin gelişimi için zihinsel ve psikomotor gelişim açısından bazı becerilere sahip olmaları gerektiği ifade etmişlerdir. Ayrıca çocukların kitaplarla ilgili yaşantıları edinmesi de erken okuryazarlık için önkoşul bir durum olarak düşünülmektedir. Çalışmada öğretmenler dil becerilerinin ve erken okuryazarlığın gelişimi için İY olan çocukların erken tanınan cihazlandırılması ve cihazından verim alabilmesi olması gerektiğinden bahsetmişlerdir. İşitme kaybı, çocukları dil gelişimini olumsuz olarak etkilediğinden bu durumun hafifletilmesi için erken tanılama ve cihazlandırma yapılmalıdır (Tomblin vd., 2015). Erken müdahale ve dile erken erişim, İY olan çocuklara akranlarıyla benzer düzeyde erken okuryazarlık ve dil fırsatlarını sunmaktadır (Zupan & Dempsey, 2013). Yapılan diğer çalışmalarda İY olan çocukların erken tanınan cihazlandırıldığında dil gelişimlerinin akranlarına yaklaştığı belirtilmiştir (Nassrallah vd., 2020; Svirsky vd., 2000; Yoshinaga-Itano & Apuzzo, 1998). Bu çalışmada da alanyazındaki diğer çalışmalar gibi dil becerileri gelişen İY olan çocukların erken okuryazarlık becerilerinin gelişeceği sonucuna ulaşılmıştır.

Bu araştırmanın bulgularına göre öğretmenlerin erken okuryazarlık becerilerinden; yazı farkındalığı, ses bilgilisel farkındalık, görsel okuma ve harf bilgisi becerilerini destekledikleri görülmektedir. Bu destekleyici çalışmalar arasında en çok etkili olan çalışmanın çocuklarla birlikte kitap okuma olduğu sonucuna ulaşılmıştır. Zupan & Dempsey (2013) çalışmalarında çocuklarla etkileşimli kitap okumanın erken okuryazarlık açısından önemine vurgu yapmaktadır. Etkileşimli okuma yapmanın dil ve erken okuryazarlık becerilerini desteklediğini belirten birçok araştırma vardır (Bracken & Fischel, 2008; Ergül vd., 2016; Laçın, 2023; Lenhart vd., 2022; Weadman vd., 2022; Whitehurst & Lonigan, 1998; Yumus ve Turan, 2021). Çocukların doğal ortamlarda erken okuryazarlık becerilerinin desteklenmesi için kitap okumaya maruz kalmaları gerekmektedir (Işıtan vd., 2020). İY olan çocuklar için etkileşimli kitap okuma çalışmaları önemli bir etkinliktir (Zupan & Dempsey, 2013). İY olan çocuklarla etkileşimli kitap okuma çalışmaları yapıldığında görsel ve işitsel olarak desteklenmiş olacaklardır. Böylece erken okuryazarlık becerilerine katkı sağlanmış olacaktır. Kahraman Evrenkaya ve Ergül (2022) çalışmalarının sonucunda öğretmenlerin dili ve erken okuryazarlığı desteklemek için etkileşimli kitap okuma yaptıkları sonucuna ulaşmışlardır. Bu çalışmada da öğretmenlerin kitaplardan faydalandıkları ve İY olan çocuklarla etkileşimli kitap okuma çalışmaları yaptıkları ortaya çıkarılmıştır. OÖ eğitiminde sık okunan kitaplara aşinalık kazanan çocukların kendi başlarına o kitabı okumaya çalışma ihtimalleri de artmaktadır (Roskos vd., 2003). Atlar ve Uzuner (2018) çalışmalarında çocukla birlikte kitaplara bakmanın ve okumanın erken okuryazarlığı desteklediğini ve tekrarlı olarak okunan kitapları, İY olan bir çocuğun okuyor gibi yaptığını görmüşlerdir. Bu çalışmada da alanyazındaki araştırma sonuçlarıyla tutarlı olarak öğretmenlerin İY olan çocukların erken okuryazarlık becerilerinin gelişimi ve desteklenmesinde kitapları kullanmanın ve kitapla olan etkileşimli yaşantıların önemini farkında oldukları görülmektedir.

Elde edilen sonuçlara göre öğretmenler İY olan çocuklarda erken okuryazarlık becerilerinin gelişiminin akademik başarıya ve çocukların özgüvenine olumlu etkisi olduğundan bahsetmişlerdir. Çakıcı vd. (2022) çalışmaları bu araştırmanın bulgularını desteklemektedir. Öğretmenler İY olan çocukların erken okuryazarlık becerilerini desteklerken daha çok model olma ve doğal işitsel sözel yöntemi kullandıklarını ve oyun temelli ilerlediklerini belirtmişlerdir. OÖ eğitiminde çocuklara doğal bir ortam sunmak gelişimlerine daha olumlu katkılar sunmaktadır. İY olan çocuklara da doğal işitsel sözel yaklaşımın kullanıldığı ortamlar dil becerilerini ve erken okuryazarlık becerilerini desteklemektedir (Karasu, 2020). Deretarla-Gül ve Bal (2006)'a göre erken okuryazarlık oyun içerisinde geliştirilmelidir. Alanyazındaki diğer araştırmaların sonucunda oyun temelli etkinliklerin erken okuryazarlık becerilerini desteklediği vurgulanmaktadır (Maureen vd., 2022). Atlar ve Uzuner (2018) ise çalışmalarında, çocuğun oyun içerikli yaşantılarıyla dil gelişiminin ve erken okuryazarlık becerilerinin desteklediği sonucuna ulaşmışlardır. Araştırmaya katılan öğretmenlerin, İY olan çocukların erken okuryazarlık becerilerinin gelişimi için doğal bir ortamda oyun temelli etkinliklere verdikleri önem, alanyazındaki diğer araştırma bulgularıyla örtüşmektedir.

Araştırmanın bulgularına göre öğretmenler daha çok ailenin eğitime katılımıyla ilgili sorunlar yaşamakla birlikte çocuğun ses çıkartamaması, cihazla ilgili sorunlar ve materyal/teknoloji eksikliği sorunu da yaşadıkları sonucuna ulaşmıştır. Çocukların erken okuryazarlık becerileriyle ilk karşılaştıkları aile ortamı, erken okuryazarlığın gelişiminde önemli bir yeri kaplaması nedeniyle eğitimin öğelerinden birini oluşturmaktadır (Harmandar ve Arıkan, 2020; Sarıkaya ve Uzuner, 2013; Yazıcı ve Kandır, 2018). Griffin & Morrison (1997)'un çalışmalarında erken okuryazarlık becerilerinin geliştirilmesine yönelik düzenlenen ev ortamlarının, çocukların OÖ dönemden 2. Sınıf sonuna kadar başarılarına olan etkisi ortaya koyulmuştur. Çocuklar yetişkinlerin sahip olduğu okuryazarlık yaşantılarını model alabilirler (Xu vd., 2017). Atlar ve Uzuner (2018) çalışmalarında yetişkinlerin İY olan bir çocuğa okuryazarlık yaşantılarında model olan davranışlar sergiledikleri ve bu davranışların çocuğun erken okuryazarlığına katkısından bahsetmişlerdir. Xu vd. (2017) çalışmalarında ebeveynlerin evde kitap okuduğu çocukların okula daha yüksek sözel dil becerileriyle başladığı sonucuna ulaşmışlardır. Araştırma bulgularına göre öğretmenler ebeveyn bilgisinin ve ev ortamının, erken okuryazarlık becerilerinin gelişiminde etkili olduğunu savunmaktadırlar. İY olan çocukların ebeveynlerinin, erken okuryazarlık etkinliklerini ev ortamında gerçekleştirmeleri hakkında bilgilendirilmelerinin, çocukların erken okuryazarlık becerilerinin gelişmesi için etkili olacağı düşünülmektedir. Sarıkaya ve Uzuner (2013) yaptıkları çalışmada İY olan çocukların ailelerinin okuryazarlık becerilerini desteklemede gereken ilgiyi göstermedikleri ve bu konuda bilgi eksikliği yaşadıkları sonucuna ulaşmışlardır. Öğretmenlerin, İY olan çocukların ebeveynleriyle iş birliği yapmaları erken okuryazarlık becerilerinin ev ortamında da desteklenmesi için önemlidir. Bu iş birliği çocukların gelecek yaşantılarındaki okuma-yazma eğitimleri için destekleyici bir unsurdur (Işıtan vd., 2020). Ebeveynlerin, öğretmenlerle iş birliği içerisinde olmalarını sağlamak amacıyla da onların erken okuryazarlık becerilerinin geliştirilmesinde önemli bir unsur olduklarını kendilerine fark ettirmenin önemli olduğu düşünülmektedir. Alanyazındaki diğer çalışmaların bulgularında yer aldığı gibi,

bu çalışmada da ailelerin eğitim-öğretim sürecine etkili katılmadıkları görülmektedir.

Araştırmanın bulguları incelendiğinde öğretmenler İY olan çocukların erken okuryazarlık becerilerini desteklerken çok çeşitli uygulamalardan yararlandıklarını ifade etmişlerdir. En çok yapılan uygulamalar arasında ses temelli etkinlikler, oyun, şarkı etkinlikleri, kitap okuma, dil/konuşma etkinlikleri ve aileyle iş birliği yer almaktadır. Karasu (2020) çalışmasının bulgularında etkileşimli okuma-yazma, hikâye anlatma, dil rutinleri, şarkılar, oyunlar vb. uygulamaların erken okuryazarlık açısından anlamlı deneyimler oluşturduğu sonucuna ulaşmıştır. Araştırmada elde edilen bulgular bu araştırmanın bulgularını destekler niteliktedir. İY olan çocuklarla yapılan etkinliklerin, özellikle dil girdisinin sağlandığı, çocuklara kendilerini ifade etmeleri için fırsatlar verildiği, görsellerin yorumlanmasına imkanlar sunulduğu etkinlikler olmasının erken okuryazarlık becerilerinin desteklenmesi için etkili olacağı düşünülmektedir.

Araştırmanın bulgularına göre öğretmenlerin erken okuryazarlık becerilerinin geliştirilmesinde, alanyazındaki diğer araştırma bulgularında olduğu gibi daha çok hikâye kitabı kullandıkları görülmektedir. Kitaplar, erken okuryazarlık becerilerini desteklemek için öğretmenler tarafından kullanılmaktadır (Uluğ ve Tekmen, 2023). Deretarla-Gül ve Bal (2006) çalışmasında kitaplar erken okuryazarlık becerilerinin desteklenmesinde sık kullanılan bir araç olarak görülmüştür. OÖ dönemde dil ve erken okuryazarlık açısından zengin bir ortam oluşturmada kitaplar önemli bir yer tutmaktadır. Çocukların kitaplarla olan etkileşimleri dil ve erken okuryazarlık becerilerini desteklemektedir (Ergül vd., 2016). Araştırmalarda dijital kitapların da erken okuryazarlık becerilerini geliştirdiği sonucuna ulaşıldığı görülmektedir (Shamir & Korat, 2007; Maureen vd., 2022). Araştırma bulgularına göre oyuncaklar ve görsel kartlar en çok kullanılan materyaller içerisinde yer almaktadır. Bu çalışmada teknolojinin de erken okuryazarlık gelişiminde sınırlı olarak kullanıldığı sonucuna ulaşılmıştır. Oysa teknoloji eğitim amacıyla kullanıldığında, dinlendiğinde veya izlendiğinde erken okur yazarlık becerilerine olumlu bir etki bırakmaktadır (Hisrich & Blanchard, 2009). Yapılan bir çalışmada öğretmenlerin erken okur yazarlık becerilerini desteklemek için hikâye kartlarından, keçe tahtası hikayelerinden, kuklalardan, yazı materyallerinden, kasetlerden, bilgisayarda okunan kitaplardan, etkileşimli oyunlardan, TV/videolardan yararlanmanın önemine vurgu yapılmaktadır (McKenney & Bradley, 2016). Teknoloji çağında yaşayan ve her gün teknolojik aletlere maruz kalan İY olan çocuklarla, teknolojinin avantajlarından yararlanılarak erken okuryazarlık becerilerinin desteklenmesinin önemli olduğu ve bu konudaki erişilebilirliğin sağlanmasının gerekliliği düşünülmektedir. Teknolojik imkanların yanı sıra çalışmada, materyal eksikliklerinin olduğunu ve öğretmenlerin kendi imkanlarıyla çalışmaların verimini arttırmaya çalıştıkları görülmektedir. Erken okuryazarlık becerilerinin desteklenmesi için okul ve sınıf imkanlarının iyileştirilmesi, materyal eksikliklerinin sorumlu kişiler tarafından giderilmesinin OÖ dönemdeki İY çocuklara verimli ve etkili çalışmalar için önemli olduğu düşünülmektedir.

Çevre İY olan çocukların erken okuryazarlık becerilerinin gelişiminde önemli bir yer tutmaktadır. Çevre eğitimin önemli bir ögesi olarak görülmektedir (Sarıkaya ve Uzuner, 2013). Bu çalışmanın fiziksel çevre temasına göre öğretmenler erken okuryazarlık gelişiminde materyal ve teknolojik imkanlarda yetersizlikler olduğundan bahsetmişlerdir. Materyal

konusunda yeterli imkanlara sahip olduğunu söyleyen öğretmenlerin de olduğu görülmektedir. Ayrıca araştırmaya katılan OÖ öğretmenlerinden bazıları sınıflarının kalabalık olmasından dolayı İY olan öğrencisiyle çok fazla ilgilenemediklerini belirtmişlerdir. Deliveli (2020) yaptığı bir çalışmada ise, öğretmenlerin İY olan öğrencilerinin bulunduğu kalabalık sınıflarda, öğrenciyi en öne oturarak, yüksek ses tonu kullanıp birebir ilgilenecek dersi yürüttüklerini belirtmektedir. OÖ sınıflarında da öğretmenlerin, İY olan çocukları kendilerine daha yakın bir konumda bulduklarının etkili olacağı öngörülmektedir.

Öğretmenler erken okuryazarlık beceri gelişiminde en çok etkili olan faktörün aile olduğundan söz etmişler ve aileyle iş birliğinin önemine dikkat çekmişlerdir. Annelerin yaptıkları etkinlik sırasında kullandıkları dil girdisinin çocuklar üzerinde erken okur yazarlık becerilerini etkilediği görülmüştür (Ergül vd., 2020). Ev ortamında ebeveyn-çocuk etkileşiminin niteliği erken okuryazarlık becerilerinin gelişimiyle yakından ilişkilidir (Dodici vd., 2003). Çocuklar ilk olarak ebeveynleriyle iletişim kurmakta ve sözel dil becerilerini desteklemektedir.

Sonuç olarak araştırmaya katılan öğretmenler erken okuryazarlığı tanımlarken ilkökula hazırlanmaya odaklanmışlar ve erken okuryazarlığın gelişimi için önkoşul bilgi, beceri ve yaşantılara sahip olunması gerektiğinden söz etmişlerdir. İY olan çocuklarıyla erken okuryazarlık becerilerinin geliştirilmesi çalışmalarında öğretmenlerin daha çok kitapları kullanarak etkileşimli kitap okuma yaptıkları sonucu ortaya çıkarılmıştır. İY olan çocukların erken okuryazarlık becerilerinin gelişimi özgüvenlerini de geliştirmekte ve akademik başarılarına da katkı sağlamaktadır. Çalışmada öğretmenlerin İY olan çocuklarıyla çalışırken daha çok doğal işitsel sözel yaklaşımı kullanarak oyun temelli etkinlikler yaptıkları görülmektedir. Öğretmenlerin İY olan çocukların erken okuryazarlık eğitimi sürecinde aile katılımı, materyal/teknoloji eksikliği, cihaziyla ilgili çeşitli sorunlar yaşadıkları görülmektedir. Araştırmada ses temelli etkinliklerin, oyun, şarkı, kitap okuma, dil ve konuşma etkinlikleri ve aile iş birliği uygulamalarının İY olan çocukların erken okuryazarlık becerilerine etkisi ortaya çıkarılmıştır. İY olan çocukların erken okuryazarlık becerilerinin gelişiminde en etkili faktörün aile olduğu sonucuna ulaşılmıştır. Bu çalışmada OÖ dönemde İY olan öğrencilerle çalışan ÖE ve OÖ öğretmenlerinin erken okuryazarlık eğitimi sürecindeki uygulamaları ve görüşlerinin birlikte incelenerek ortaya çıkarılması araştırmanın güçlü ve zengin tarafını oluşturmaktadır. Bu çalışmada az sayıda gözleme yer verilmesi ise sınırlılığdır.

Araştırmanın bulgularına dayalı olarak araştırma ve uygulamaya yönelik öneriler sunulmuştur.

İleriki araştırmalara yönelik öneriler

- Ulusal alanyazında OÖ dönemde İY olan çocukların erken okuryazarlık becerilerinin geliştirilmesine dair müdahaleye yönelik araştırmaların planlanması ve yürütülmesi önerilebilir.
- Araştırmaya katılan öğretmenlerin teknolojik imkanları olmadığı için dijital etkinliklerle çalışma yapma fırsatı bulunamamıştır. Teknoloji destekli etkinliklerle erken okuryazarlık becerilerinin geliştirilmesine yönelik çalışmaların yapılması önerilebilir.
- Erken okuryazarlık becerilerini geliştirmek için kullanılan materyallerin özelleştirilmesi,

çeşitlendirilmesi, geliştirilmesiyle ilgili araştırmalar planlanabilir.

- Gelecek araştırmalarda OÖ dönemde İY olan çocukların ailelerinin erken okuryazarlık becerilerine olan katkıları çok boyutlu bir şekilde incelenebilir.

Uygulamaya yönelik öneriler

- Ses bilgisel farkındalığın oluşması için işitme duyusundan en iyi şekilde yararlanmak gerektiğini ifade eden katılımcılar bu şartın erken cihazlandırmaya mümkün olacağını belirtmişlerdir. Bu nedenle öğretmenler ve aileler için işitme cihazlarının çalışma sistemleri, oluşabilecek problemler ve çözüm önerileri hakkında kısa bilgilerin yer aldığı rehber hazırlanabilir veya bu konuda eğitimler verilebilir.
- Millî Eğitim Bakanlığının veya okul idarecilerinin ailelere erken okuryazarlık hakkında seminerler verip ailelerin bu konu hakkında bilinç düzeyleri ve farkındalıkları sağlanabilir.
- Etkileşimli kitap okumanın çocuklar üzerindeki etkisi düşünüldüğünde, çocuklarla birlikte hem ailelerin hem de öğretmenlerin etkileşimli kitap okuma etkinlikleri yapmaları önerilmektedir.

Yazar Katkı Oranı

Birinci yazar çalışmanın konusunun belirlenmesi, planlanması ve araştırma deseninin belirlenmesini üstlenmiştir. İkinci ve beşinci yazarlar alan yazın taraması sürecini gerçekleştirmiştir. İkinci, üçüncü ve dördüncü yazarlar veri toplama sürecine katkı sağlamıştır. Birinci, ikinci, üçüncü ve dördüncü yazar veri analizlerini gerçekleştirmiştir. Tüm yazarlar makalenin yazımına katkı sağlamış ve çalışmanın son hâlini okumuş ve onaylamıştır.

Etik Kurul Beyanı

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Yazarlar çalışma kapsamında herhangi bir kurum veya kişi ile çıkar çatışması bulunmadığını beyan etmektedir.

Teşekkür

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Extended Summary

Introduction

Literacy skills are skills that children should acquire in primary school (Deretarla-Gül & Bal). Children develop certain skills in the preschool period that facilitate the acquisition of these skills in primary school (Whitehurst & Lonigan, 1998). The skills developed for literacy skills in the preschool period are defined as early literacy skills. Early literacy skills are phonological awareness, print awareness, alphabet and letter knowledge, vocabulary knowledge, and listening comprehension (Piştav-Akmeşe & Sezgin-Küçük, 2022; Strickland & Riley-Ayers, 2006). It is known that the academic skills of children who have acquired early literacy skills in preschool are positively affected. On the other hand, the development of academic skills of children who have difficulty acquiring these skills in the preschool period is negatively affected. Children with hearing impairment (HI) are at risk of acquiring early literacy skills due to hearing loss (Strickland & Riley-Ayers, 2006). Hearing loss causes retardation in the development of children's language skills, and this also affects the development of early literacy skills. As a result of early identification and instrumentation, the language development of children with HI approaches the language development of children with normal development (Yoshinaga-Itano & Apuzzo, 1998). However, children with HI who have difficulties in language development also have difficulties in acquiring early literacy skills (Easterbrooks et al., 2008). Considering the importance of early literacy skills, it is necessary to pay attention to the acquisition of these skills by children with HI (Dammeyer, 2014). It was seen that the research on this subject was limited, and it was seen as a need to examine the practices carried out by teachers in the development of early literacy skills of children with HI. In this sense, taking the opinions of teachers who teach children with HI will contribute to the literature. In addition, considering the limited number of studies in the field, the information obtained within the scope of this research will shed light on researchers and teachers working in the field. The aim of this study is to examine the practices of developing early literacy skills of children with IY in preschool. In line with this purpose of the study, the following questions will be sought to be answered:

1. What are the views of teachers with students with HI on early literacy skills?
2. How is the early literacy process of students with HI carried out by teachers?

Method

This study aimed to examine the practices in the development of early literacy skills of children with HI in the preschool period. The research designed was a qualitative case study design. A case study is used to describe and examine a limited system in depth (Merriam, 2013). The study group of the research consisted of 16 teachers, eight special education teachers teaching children with HI in special education kindergarten, and eight preschool teachers working in inclusive classrooms. In order to collect the data for this study, a semi-structured interview form and an observation record form prepared by the researchers were used. The prepared data collection tools were presented to the experts working in the field, and their opinions were taken. Interviews lasted between 18 minutes and 1 hour 40 minutes. The data collection process was completed between November 2023 and March 2024. The total interview duration was 9 hours 31 minutes 56 seconds. In

this process, the necessary approvals and permissions of the participants were obtained, and the interviews were recorded with a voice recorder and observations were recorded in writing. All data were converted into written form and the transcription is 164 pages. The data collected by the researchers were analyzed by content analysis. For this study, ethics committee approval dated 23.11.2023, numbered E-61923333-050.99-308501, and decision number 25/26 were obtained from Sakarya University Educational Research and Publication Ethics Committee.

Findings

In this study, while defining early literacy, teachers emphasized primary school readiness. They also mentioned the acquisition of some skills and experiences for primary school readiness. It was stated that there are prerequisite conditions in the development process of early literacy in children with HI. These prerequisite conditions include early diagnosis, early deviceization, getting efficiency from the device, early family education, concept recognition, distinguishing sounds, using a pencil, experiences with books, etc. It was determined that the skills most frequently tried to be developed by teachers in the development of early literacy skills in children with HI are print awareness, phonological awareness, visual reading and letter knowledge. Teachers mentioned that the development of early literacy skills in children with HI has a positive effect on children's academic achievement and self-confidence. Teachers use a more natural auditory verbal approach, modeling methods, and play-based methods in the development of early literacy skills of children with HI. In this process, it was determined that teachers experienced problems arising from the families, the device, the child's inability to make the sound, and the lack of material/technology. Teachers stated that while developing the early literacy skills of children with HI, they do sound activities, games, songs/rhythms, and storybook reading activities. In addition, teachers also try to establish cooperation with families through these activities. Storybooks, toys, visual cards, songs, and videos for making sounds are frequently used tools and technologies in early literacy activities in the classroom. Teachers emphasized the importance of the physical and social environment in which children with HI live and emphasized the need to improve elements such as environmental opportunities and cooperation.

Discussion and Conclusion

In this study, teachers' definitions of early literacy are consistent with the studies in the literature. The fact that teachers also mentioned visual reading and narration skills while defining early literacy skills is thought to be due to the skills that children with HI have. Oral language skills are among the basic early literacy skills (Rohde, 2015). In this study, it is understood that oral language skills are important for early literacy skills, and it is seen that teachers conduct activities to support oral language skills. In contrast with previous studies, it is mentioned that there are prerequisite knowledge, skills, and experiences for the development of early literacy skills. Çakıcı et al. (2022) mentioned that early literacy affects academic achievement and children's feelings of self-confidence. In this study, it was mentioned that when the early literacy skills of children with HI develop, their academic achievement and self-confidence are positively affected. In this study, while teachers support the early literacy skills of children with HI, they carry out modeling, a natural

auditory verbal approach, and play-based activities. In Karasu's (2020) study, it was concluded that educational environments where the natural auditory verbal approach is applied support the early literacy skills of children with HI. In addition, it is stated that early literacy skills are supported within play-based activities (Deretarla-Gül & Bal), and the importance of the game supporting early literacy skills is emphasized (Maureen et al., 2022; Payle et al., 2024; Roskos et al., 2003). In Atlar & Uzuner's (2018) study, playful experiences support language and early literacy skills. In this study, the studies conducted by teachers to support the early literacy skills of children with HI are in parallel with Karasu's (2020) study. It was observed that teachers mostly used books and interactive book-reading activities while supporting the early literacy skills of children with HI. There are many studies indicating that interactive book reading activities support early literacy skills (Bracken & Fischel, 2008; Ergül et al., 2016; Laçın, 2023; Lenhart et al., 2022; Weadman et al., 2022; Whitehurst & Lonigan, 1998; Yumus & Turan, 2021; Zupan & Dempsey, 2013). In addition, teachers emphasized the importance of the environment of the child with HI for early literacy development. This finding is similar to the results of other studies in the literature. With this study, the practices in the development of early literacy skills of children with HI in the preschool period were revealed, and recommendations were made accordingly.

Recommendations

The recommendations are as follows.

- It may be recommended to plan and conduct research on the development of early literacy skills of children with HI in the early childhood period.
- The teachers who participated in the study did not have the opportunity to work with digital activities because they did not have technological facilities. It may be recommended to conduct studies on the development of early literacy skills with technology-supported activities.
- Research on the customization, diversification, and development of materials used to develop early literacy skills can be planned.
- In future research, the contributions of families of children with HI in early childhood to early literacy skills can be examined in a multidimensional way.
- The participants stated that for phonological awareness to be formed, it is necessary to make the best use of the sense of hearing and that this condition can be achieved through early device fitting. For this reason, a guide with brief information about the working systems of hearing aids, possible problems, and solution suggestions can be prepared for teachers and families, or training can be given on this subject.
- The Ministry of National Education or school administrators can give seminars to families about early literacy and raise the awareness of families about this issue.
- Considering the effect of interactive book reading on children, it is recommended that both families and teachers do interactive book reading activities with children.

Author Contributions

The first author undertook the determination of the subject, as well as the planning and research design of the study. The

second and fifth authors carried out the literature review process. The second, third, and fourth authors contributed to the data collection process. The first and second authors performed the data analysis. All authors contributed to the writing of the article and read and approved the final version of the study.

Ethical Declaration

For this study, the approval of the ethics committee dated 23.11.2023, numbered E-61923333-050.99-308501, and decision number 25/26 was obtained from Sakarya University Educational Research and Publication Ethics Committee.

Conflict of Interest

The authors declare that there is no conflict of interest with any institution or person within the scope of the study.

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Uluslararası Öğrencilerin Türkçe Akademik Yazma Becerilerinin Değerlendirilmesine Yönelik Analitik Dereceli Puanlama Anahtarının Geliştirilmesi*

Development of an Analytical Rubric for the Assessment of International Students' Turkish Academic Writing Skills

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Öz: Bu çalışmanın amacı, uluslararası öğrencilerin Türkçe akademik yazma ihtiyaçlarını temele alarak ilgili becerinin değerlendirilmesine yönelik bir analitik dereceli puanlama anahtarı geliştirmektir. Araştırmada, nitel ve nicel araştırma yöntemlerinin bir arada kullanıldığı karma araştırma yaklaşımlarından keşfedici sıralı desen kullanılmıştır. Çalışmanın nitel boyutunda, geliştirilen taslak dereceli puanlama anahtarının ölçüt ve alt ölçütleri; uluslararası öğrencilerle, dil öğretimi merkezlerinde görevli öğretim görevlileriyle, uluslararası öğrencilerin bölüm derslerini yürüten öğretim üyeleriyle yapılan görüşmeler, uluslararası öğrencilerin ürettikleri bilimsel metinlerin çözümlemeleri ve alanyazın taraması bağlamında belirlenmiştir. Ayrıca çalışmada, dereceli puanlama anahtarının geçerliğinin ve güvenilirliğinin sınanması amacıyla tanımlama, görev, yönerge ve puanlama yöntemi olmak üzere dört bölümden oluşan bir performans görevi oluşturulmuştur. Bilimsel metin üretmeyi önceleyen performans görevini, amaçlı örnekleme yöntemleri içerisinde yer alan ölçüt örnekleme kullanılarak belirlenen 157 uluslararası öğrenci tamamlamıştır. Uluslararası öğrencilerin oluşturdukları bu metinler, taslak dereceli puanlama anahtarı kullanılarak değerlendirilmiştir. Bu çalışmanın odaklandığı nicel boyutta ise söz konusu ölçme aracının geçerliği ve güvenilirliği sınanmıştır. Taslak dereceli puanlama anahtarının geçerlik çalışması kapsamında Davis (1992) tekniği ile 10 uzmanın görüşü bağlamında kapsam ve açıklayıcı faktör analizi ile yapı geçerliği incelenmiştir. Güvenilirlik çalışması kapsamında ise Cronbach Alpha katsayısı, 6 puanlayıcının değerlendirmeleri üzerinden Sınıf İçi Korelasyon ile Fleiss Kappa uyum katsayısı ve madde geçerliğine kanıt olarak madde-toplam korelasyonları hesaplanmıştır. Çalışma sonucunda, son hâli 5 ana ölçüt ve 24 alt ölçütten oluşan dereceli puanlama anahtarının, uluslararası öğrencilerin Türkçe akademik yazma becerilerini ölçebilecek nitelikte geçerli ve güvenilir bir ölçme aracı olduğu belirlenmiştir.

Anahtar Kelimeler: Yabancı/ikinci dil olarak Türkçe öğretimi, uluslararası öğrenciler, akademik yazma becerileri, analitik dereceli puanlama anahtarı geliştirme

Abstract: The purpose of this study is to develop an analytical rubric for the assessment of the relevant skill based on the Turkish academic writing needs of international students. In the study, exploratory sequential design, which is one of the mixed research methods in which qualitative and quantitative research methods are used together, was used. In the qualitative dimension of the study, the criteria and sub-criteria of the developed draft rubric were determined in the context of interviews with international students, lecturers working in language teaching centers, lecturers conducting departmental courses of international students, analysis of scientific texts produced by international students and literature review. In addition, in order to calculate the validity and reliability of the rubric, a performance task consisting of four parts: description, task, instruction, and scoring method was created. The performance task, which prioritized the production of scientific texts, was completed by 157 international students who were selected using criterion sampling, which is one of the purposive sampling methods. These texts created by international students were evaluated using the draft DPA. In the quantitative dimension, which is the focus of this study, the validity and reliability of the instrument were tested. Within the scope of the validity study of the draft DPA, content validity was examined in the context of the opinions of 10 experts with Davis (1992) technique, and construct validity was examined with exploratory factor analysis. As part of the reliability study, the Cronbach's Alpha coefficient, Intraclass Correlation and Fleiss Kappa agreement coefficient over the evaluations of six raters, and item-total correlations were calculated as evidence of item validity. As a result of the study, it was determined that the rubric, the final version of which consists of five criteria and 24 sub-criteria, is a valid and reliable measurement tool that can measure international students' Turkish academic writing skills.

Keywords: Teaching Turkish as a foreign/second language, international students, academic writing skills, analytical rubric development

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Giriş

Dil becerileri bir dilin anlaşılması, kullanılması ve iletişim kurulması için gereken yeterlikleri ifade etmektedir. Bu beceriler anlama ve anlatmaya dayalı beceriler olmak üzere iki bölüme ayrılmaktadır. İnsanlar, birbirleriyle etkileşim kurmak ve fikirlerini iletmek için hem dinleyerek ve okuyarak anlama hem de konuşarak ve yazarak anlatma becerilerine ihtiyaç duymaktadır. Gerek ana dilin edinilmesi gerekse yabancı/ikinci bir dilin öğrenilmesi için tüm bu becerilerin geliştirilmesi gerekmektedir.

Dil becerilerini geliştirme sürecinde öğrenciler çeşitli düzey ve türde zorluklarla karşılaşabilmektedir. Genel olarak değerlendirildiğinde eğitim-öğretim sürecinde öğrencilerin ve hatta öğretim elemanlarının yaşadığı bu zorlukların daha çok yazma becerisi ile ilişkili olduğu görülmektedir. Yazma, içinde okuma, düşünme ve düzgün ifade etme becerileri içerdiği, ayrıca uygulaması zor bir eylem olduğu için öğrenciler bu öğrenme alanından uzak durma eğilimi içindedir (Ungan, 2007, s. 462). Yorgancı ve Baş'a (2021, s. 71) göre gerek ana dili gerekse yabancı dil öğretiminde üretici/anlatmaya dayalı dil becerilerinin gelişimi diğer

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becerilere göre hem daha çok zaman almakta hem de daha zor gelişmektedir. Bir üretici dil becerisi olarak yazma; genelde yabancı dil öğretiminde, özelde Türkçenin yabancı/ikinci dil olarak öğretiminde geliştirilmesi en zor ve en son kazanılan beceri olarak kabul edilmektedir. Benzer şekilde Yıldırım ve Nurlu (2016, s. 832) öğrencilerin, dil eğitiminde özellikle üretici/anlatmaya dayalı dil becerilerinde daha çok zorlandığını, bu zorluğun konuşma becerisine oranla yazma becerisinde daha çok yaşandığını ifade etmektedir. Ayrıca yabancı/ikinci dil öğretiminde yazma becerisinde karşılaşılan zorlukların ana dili eğitimine göre daha çok görüldüğünü ve yaşanan bu zorlukların; yazma becerisinin sözcük, dil bilgisi, düşünce üretme, plan, yazım ve noktalama gibi birçok unsuru birlikte ve doğru kullanmayı gerektirmesinden kaynaklandığını belirtmektedir.

Yazma eyleminin akademik amaçlar için kullanımıyla beraber akademik yazma kavramı ortaya çıkmıştır. Söz konusu bu kavram ulusal ve uluslararası alanyazında birçok araştırmacı tarafından farklı şekillerde tanımlanmıştır (Hogue, 2008; Irvin, 2010; Swales & Feak, 2012; Tok, 2013; Bahar, 2014; Aydın, 2015; Kan, 2017; Karagöl, 2018; Güngör 2020). İlgili kavrama ilişkin yapılan tanım ve açıklamalardan hareketle; akademik yazma, akademik bir bağlamda gerçekleştirilen araştırmaların sonuçlarının; biçim, söylem, metin yapısı, plan ve düzenleme ile kaynak kullanımı yönlerinden kendine özgü ilkelere dikkat edilerek raporlandığı ayrıca üst düzey düşünme becerilerinin etkin bir şekilde kullanılmasını gerektiren bir yazma türü şeklinde ifade edilebilir. Türkçenin yabancı/ikinci dil olarak öğretimi bağlamında düşünüldüğünde öğrencilerin daha çok okul yaşantılarında kullanmaya ihtiyaç duyduğu bu kavram, yazma becerisi ile doğrudan bağlantılıdır. Güngör'e (2020, s. 167) göre "yabancı dil öğretim sürecinde, temel düzeyden itibaren yapılan yazma eğitimi çalışmaları, öğrencilerin hedef dili kullanarak akademik hayattaki başarılarını", dolayısıyla akademik yazma becerilerini doğrudan etkilemektedir. Yücelşen'e (2021, s. 15) göre "akademik yazma, yetenekten çok teknik bilgi gerektiren, uğraşsal bir zorunluluktur ve öğrenilebilir, geliştirilebilir bir beceridir." Akademik yazmanın teknik bilgi gerektirmesi yabancı/ikinci dil olarak Türkçe öğretiminde ilgili beceriyi geliştirmeye yönelik ders işleme sürecinin alana özel bileşenlerin dikkate alınarak tasarlanmasını gerektirmektedir. Demirci'ye (2014) göre öğrencilere akademik yazma konusunda deneyim yaşatmak ilgili becerinin gelişmesinde önemli bir etkidir. Özellikle üniversite öğrencilerinin gereksinim duyduğu bu beceriye yönelik deneyim yaşamalarını sağlamak amacıyla çeşitli kurslar ve dersler planlanmıştır. Genelde akademik Türkçe çatısı altında birleşen bu kurs ve derslerin, akademik yazma bağlamında uluslararası öğrencilere; akademik dilin özelliklerini ve kurallarını kavratmayı, alanyazın taraması yaparak geçerli ve güvenilir kaynaklara ulaşmayı, bilimsel metin oluşturmayı, akademik yazılardaki biçimsel özelliklere dikkat etmeyi, alıntı yapmayı ve kaynakça düzenlemeyi, etik ilkelere uymayı vb. farklı uygulamalar üzerinden öğretmeyi hedeflemesi gerekmektedir.

Akademik yazma becerilerinin geliştirilmesinde, deneyim yaşamak kadar düzenli olarak yapıcı geri bildirimlerin verilmesi ve hatalardan ders çıkarılması da son derece önemlidir (Pineteh, 2014; Demirci, 2014). Hatalardan ders çıkarabilmek, yanlışları ve eksiklikleri fark edebilmektir. Bireylerin güçlü ve zayıf yönlerini belirleyerek eksikliklerini gidermek, yanlışları düzeltmek ve gelişimlerine katkı sağlamak için ölçme ve değerlendirme büyük önem

taşımaktadır. Bireylerin yeterliklerini ve yetersizliklerini saptayabilmek için ölçülen niteliğe uygun ölçme araçları kullanılmalıdır (Polat-Demir, 2020, s. 321).

Üst düzey düşünme becerilerinin kullanılmasını gerektiren ve biçim, söylem, metin, plan, kaynak kullanımı, etik gibi birçok boyutu içeren akademik yazma becerilerinin ölçülmesinde, değerlendirilmesinde ve geliştirilmesinde kullanılabilecek en etkili ölçme araçlarından biri ise analitik (çözümleyici) dereceli puanlama anahtarıdır. Dereceli puanlama anahtarı, diğer alan ve konularda olduğu gibi yabancı/ikinci dil olarak Türkçe öğretimi alanında ve akademik yazma konusunda da büyük bir öneme sahiptir. Dereceli puanlama anahtarının yabancı/ikinci dil olarak Türkçe öğretiminde öğrencilerin akademik yazma becerilerinin gelişmesine yönelik tüm paydaşlara sağladığı faydalar aşağıda özetlenmiştir (Erman-Aslanoglu, 2003; Moskal, 2000; Goodrich-Andrade, 2005; Parlak ve Doğan, 2014; Çepni, 2015; Kutlu vd., 2017):

- Dereceli puanlama anahtarları ile öğrencilerin akademik yazma bağlamında düzeyleri ve eksiklikleri detaylı bir biçimde belirlenmektedir. Bir geri bildirim kaynağı özelliği göstermesi nedeniyle dereceli puanlama anahtarı, üst düzey zihinsel süreçlerin işletilmesini önceleyen akademik yazma becerisi noktasında öğrencilerin ve öğretim elemanlarının gözden geçirme ve iyileştirmeye yönelik etkili kararlar almasına olanak sağlamaktadır.
- Öğrencilerin oluşturduğu akademik metinlerin geçerli ve güvenilir bir şekilde puanlanabilmesine imkân sunmaktadır. Bu yöntem, öğretim elemanlarına, öğrencilerin çalışmalarını hangi ölçütlere göre puanlayacaklarını önceden bilme imkânı vermekte ve böylelikle değerlendirme ve puanlama güvenilirliği sağlamaktadır. Ayrıca, değerlendirme sürecinin kısalmasına ve basitleşmesine olanak tanımaktadır.
- Üzerinde uzlaşa sağlanamamış ve kapsamı tam olarak belirlenememiş Türkçe akademik yazma becerilerinin çerçevesini çizdiği, dikkat edilmesi gereken ölçütleri tanımladığı için nesnel değerlendirmelere olanak sağlarken; ilgili beceriden beklenen yeterlikleri tam olarak belirleyemeyen, konu hakkında yeterli bilgi ve deneyimi olmayan, pedagojik eksiklikleri bulunan öğretim elemanlarına yol gösterici olma niteliği taşımaktadır.
- Öğrenciler, hangi ölçütlere göre puanlanacaklarını ve en iyi performansın neleri içerdiğini bildikleri için çalışmalarını ona göre bilinçli bir şekilde düzenlemeye ve ilgili beceriyi geliştirmeye yönelik çaba göstereceklerdir.
- Öğrencilerin değerlendirilecekleri ölçütleri önceden bilmeleri, kendilerinden beklenen performansın boyutlarından, bu boyutların tanımlarından ve düzeylerinden haberdar olmaları, akademik başarılarına katkı sağlamanın yanı sıra öğretim sürecine ve başta öğretim elemanına olmak üzere bu süreçteki tüm paydaşlara olan tutumlarını olumlu etkilemektedir. Ayrıca öğrencilerin sözü edilen boyutlardan haberdar olmaları, kendilerini rahat ve özgüvenli hissetmelerini sağlamaktadır. Bu durum da ilgili performansı göstermeye daha istekli olmalarına ve kaygı düzeylerinin düşmesine yardımcı olmaktadır. Böylece dereceli puanlama anahtarının kullanımı, dil becerileri içerisinde en çok zorlanılan ve kaygı duyulan yazma

becerisi ile doğrudan ilişkili olan akademik yazma konusunda öğrencilerin tutumlarının değişmesine ve ilgili çalışmalarda başarı göstermelerine katkı sağlamaktadır.

Alanyazın incelendiğinde yabancı/ikinci dil olarak Türkçe öğretimi alanında daha çok yazma becerisinin değerlendirilmesine yönelik dereceli puanlama anahtarı geliştirme çalışmalarının yer aldığı (Yorgancı ve Baş, 2021; Durmuş, 2022; Kahveci, 2022; Harmankaya vd., 2022; Tekin ve Sallabaş, 2022) görülmekle birlikte hedef kitlelerin akademik yazma becerilerini ölçmek amacıyla çeşitli türlerde ölçme araçları geliştirildiği de belirlenmiştir (Aydın, 2015; Izawa et al., 2017; Shekarabi, 2017; Al-Abdullatif et al., 2020; Polat-Demir, 2020; Baz-Bolluk ve Batur, 2023). Ancak uluslararası öğrencilerin Türkçe akademik yazma ihtiyaçlarını temele alarak ilgili becerinin değerlendirilmesine yönelik göreve dayalı geçerliği ve güvenilirliği çok boyutlu çözümleme teknikleri ile sınanmış analitik dereceli puanlama anahtarı geliştirme çalışmasına rastlanmamıştır. Bu nedenle çalışmada, uluslararası öğrencilerin Türkçe akademik yazma ihtiyaçlarını temele alarak ilgili becerinin değerlendirilmesine yönelik bir analitik dereceli puanlama anahtarının geliştirilmesi amaçlanmıştır. Bu temel amaç doğrultusunda çalışmada yanıtlanması hedeflenen sorular şöyle sıralanabilir:

1. Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarının geçerlik analizi sonuçları nasıldır?
 - a. Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarının kapsam geçerliği nasıldır?
 - b. Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarının yapı geçerliği nasıldır?
2. Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarının güvenilirlik analizi sonuçları nasıldır?
 - a. Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarının Croanbach Alfa güvenilirlik katsayısı nasıldır?
 - b. Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarına göre yapılan değerlendirmelerde puanlayıcılar arasındaki uyum nasıldır?
 - c. Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarındaki alt ölçütlerin madde geçerlik düzeyleri nasıldır?

Geliştirilen analitik dereceli puanlama anahtarının nesnel değerlendirme yapmaya yardımcı olması, öğrencilerin Türkçe akademik yazma becerilerinin gelişimine katkı sağlaması, hem öğretim görevlilerine hem de öğrencilere ilgili becerinin başarımına ilişkin geri bildirim olanağı sunarak yol gösterici olması bağlamında alana katkı sağlayacağı düşünülmektedir.

Yöntem

Araştırmanın Deseni

Uluslararası öğrencilerin Türkçe akademik yazma becerilerinin değerlendirilmesine yönelik analitik dereceli puanlama anahtarının geliştirilmesinin amaçlandığı bu

çalışmada, karma desen stratejisi içerisinde yer alan keşfedici sıralı desen kullanılmıştır. Keşfedici sıralı desende araştırmacı nitel sonuçlara bağlı olarak oluşturulan aşamaların ortasında bir araç geliştirir ve bu aracı, nicel verileri toplarken kullanır (Creswell & Plano-Clark, 2018, s. 94). “Keşfedici sıralı desen teorik olarak küçük bir çalışma grubundan toplanan nitel veriler ile başlamaktadır. Nitel verilerin analiziyle elde edilen bulgu ve sonuçların ışığında nicel bir ölçme aracı geliştirilmektedir ve bu nicel aşama keşfedici desenin ikinci ve son aşamasını oluşturmaktadır” (Teddlie & Tashakkori, 2006, s. 21 akt. Özdemir, 2018, s. 495). “Bu aşamada geliştirilen ölçme aracı, daha geniş bir örneklem üzerinde uygulanarak istatistiksel olarak test edilmektedir. Ölçülmek istenen değişkeni ölçebilecek nitelikte ve yeterlikte bir ölçme aracına ulaşılmaması ile araştırma sonlandırılmaktadır” (Özdemir, 2018, s. 495).

Keşfedici sıralı desenin adımları temele alınarak, çalışmada öncelikle akademik yazma bileşenlerini belirlemek için ulusal ve uluslararası alanyazın (Uzun, 2001; Goodric-Andrade, 2001; Bayat, 2009; Swales & Feak, 2012; Tok, 2012; Tok, 2013; Bahar, 2014; Şenöz-Ayata, 2014; The WIDA English Language Development Standards and Resource Guide [WIDA], 2014; Aydın, 2015; Razi, 2015; Yahşi-Cevher ve Güngör, 2015; Kan ve Gedik, 2016; Tok ve Gönülal, 2016; Ulutaş, 2016; Demir, 2017; Izawa et al., 2017; Kan, 2017; Shekarabi, 2017; Deniz ve Karagöl, 2018; Karagöl, 2018; Tüfekçioğlu, 2018; Azizoglu vd., 2019; Demiriz ve Okur, 2019; Konyar, 2019; Seyedi, 2019; Yurdakul-Güde, 2019; Al-Abdullatif et al., 2020; Bailey, 2020; Polat-Demir, 2020, Yücelşen, 2021; Global Scale of English Learning Objectives for Academic English [GSE], 2022) detaylı olarak taranmıştır. Ardından uluslararası öğrencilerin Türkçe akademik yazma ihtiyaçlarının belirlenmesi amacıyla uluslararası öğrencilerle, dil öğretim merkezlerinde görevli öğretim görevlileriyle, uluslararası öğrencilerin bölüm derslerini yürüten öğretim üyeleriyle yarı yapılandırılmış şekilde tasarlanan görüşmeler gerçekleştirilmiştir. Yapılan görüşme analizleri sonucunda belirlenen gereksinimlerin öğrencilerin yazma ürünlerindeki yansımaları tespit etmek, akademik yazma ihtiyaçlarını detaylandırmak ve taslak dereceli puanlama anahtarının ölçütlerini belirginleştirmek için uluslararası öğrencilerden verilen bir yazma görevini gerçekleştirmeleri istenmiştir. Toplanan tüm bu nitel verilerin çözümlenmesi sonucunda; uluslararası öğrencilerin akademik yazma konusunda yetersiz olduğu ve biçim, akademik söylem, metin yapısı, plan ve düzenleme, kaynaklardan yararlanma konularında becerilerini geliştirmelerine olanak sağlayan bir öğretime ve bu bağlamda geliştirilen ders materyalleri ile ölçme ve değerlendirme araçlarına gereksinim duydukları belirlenmiştir. Bütüncül bir bakış açısı ile değerlendirilen bu çözümlenmeler ve alanyazındaki bilgilerden hareketle taslak dereceli puanlama anahtarının ölçütleri, alt ölçütleri ile performans düzey ve tanımları belirlenmiştir. Nitel verilere dayalı olarak yapılandırılan ölçme aracı kullanılarak uluslararası öğrencilere verilen bilimsel metin yazmayı önceleyen performans görevleri puanlanmıştır. Son olarak, bu çalışmanın odaklandığı nicel boyutta ise söz konusu ölçme aracının geçerliği ve güvenilirliği sınanmıştır.

Çalışma Grubu

Taslak dereceli puanlama anahtarını geçerlik ve güvenilirlik açısından sınamak için araştırmacılar tarafından geliştirilen performans görevini, amaçlı örnekleme yöntemleri içerisinde yer alan ölçüt örnekleme kullanılarak belirlenen 157 uluslararası öğrenci tamamlamıştır. Nitel araştırma geleneği

içerisinde ortaya çıkan ve nitel araştırmalar için en uygun örnekleme yöntemi olarak tanımlanan amaçlı örnekleme çeşitlerinden olan ölçüt örneklemede temel yaklaşım, önceden belirlenmiş bir dizi ölçütü karşılayan durumların çalışılmasıdır (Yıldırım ve Şimşek, 2011). Çalışmada ölçüt örnekleminin seçilme nedeni, önceden tanımlanan ölçütlere göre katılımcıların belirlenme düşüncesidir. Çalışma kapsamındaki uluslararası öğrencilerin ülkemize yükseköğrenim görme amacıyla gelmiş ve C1 düzeyinden mezun olup akademik Türkçe dersi almış olması ölçütlerini karşılaması beklenmiştir.

Veri toplanan katılımcıların kişisel bilgilerine bakıldığında cinsiyet olarak 82'si kadın; 75'i erkektir. Yaş olarak ise 74'ü 17-20 yaş aralığında, 48'i 21-24 yaş aralığında, 23'ü 25-28 yaş aralığında, 9'u 29-32 yaş aralığında, 3'ü 33 yaş ve üzerindedir.

Dil değişkeni açısından bakıldığında katılımcıların 46'sı Arapça, 14'ü Endonezce, 13'ü Farsça, 9'u Fransızca, 8'i Urduca, 5'i Amharca, 5'i Arnavutça, 5'i İngilizce, 4'ü Rusça, 4'ü Yorubaca, 3'ü Boşnakça, 3'ü Kazakça, 3'ü Kürtçe, 3'ü Peştuca, 2'si Ahıska Türkçesi, 2'si Bengalce, 2'si Burmaca, 2'si İspanyolca, 2'si Malayca, 2'si Moğolca, 2'si Özbekçe, 2'si Sırpça, 2'si Somalice, 2'si Türkmençe, 1'i Berberice, 1'i Çeçence, 1'i Çevaca, 1'i Dinka dili, 1'i Ewece, 1'i Karadağca, 1'i Kaşkıyca, 1'i Rundice, 1'i Oromca, 1'i Portekizce, 1'i Svahilice, 1'i Tacikçe ana dillerine sahiptir.

Katılımcıların 95'i lisans, 49'u yüksek lisans ve 13'ü doktora düzeyinde öğrenim görmektedir/görecektir. Ayrıca 67 katılımcı Sakarya Üniversitesi Türk Dili Öğretimi Uygulama ve Araştırma Merkezinde (TÖMER), 26 katılımcı Ankara Üniversitesi Türkçe ve Yabancı Dil Uygulama ve Araştırma Merkezinde (TÖMER), 22 katılımcı Nevşehir Hacı Bektaş Veli Üniversitesi Türkçe ve Yabancı Dil Öğretimi Uygulama ve Araştırma Merkezinde (TÖMER), 16 katılımcı İstanbul Üniversitesi-Cerrahpaşa Yabancı Diller Yüksekokulunda, 10 katılımcı İstanbul Üniversitesi Dil Merkezinde (DİLMER), 9 katılımcı Sağlık Bilimleri Üniversitesi Türkçe ve Yabancı Dil Uygulama ve Araştırma Merkezinde (TÖMER), 5 katılımcı Bolu Abant İzzet Baysal Üniversitesi Türkçe Öğretimi Uygulama ve Araştırma Merkezinde (TÖMER), 1 katılımcı Ankara Yıldırım Beyazıt Üniversitesi Dil Eğitimi Uygulama ve Araştırma Merkezinde (DİLMER), 1 katılımcı Bursa Uludağ Üniversitesi Türkçe Öğretimi Uygulama ve Araştırma Merkezinde (ULUTÖMER) Türkçe öğrenimlerini tamamlayarak C1 düzeyine ulaşmıştır. Ankara Yıldırım Beyazıt Üniversitesi DİLMER'de öğrenim gören 1 katılımcı haricindeki tüm katılımcılar aynı kurumda akademik Türkçe derslerine katılmıştır. Sözü edilen 1 katılımcı Bolu Abant İzzet Baysal Üniversitesi TÖMER'de ilgili dersi tamamlamıştır.

Veri Toplama Araçları

Bu çalışmada veri toplamak amacıyla performans görevi ve taslak dereceli puanlama anahtarı kullanılmıştır. Söz konusu araçların geliştirilme süreçleri, ilgili başlıklar altında ayrıntılı olarak açıklanmıştır.

Performans Görevi

Bu çalışmada, araştırmacılar tarafından uluslararası öğrencilerin akademik yazma becerilerini yansıtmalarına olanak sağlayan bir performans görevi hazırlanmıştır. "Performans görevi, öğrencilerin performanslarını belirlemek amacıyla ders kazanımları ve becerileriyle ilişkili bireysel veya grup hâlinde yapılan uzun soluklu çalışmalardır" (Kutlu vd., 2008, s. 12). Kutlu vd.'e (2008) göre bir performans görevi tanımlama, görev, yönerge ve puanlama yöntemi olmak

üzere dört bölümden oluşmaktadır. Çalışma bağlamında geliştirilen performans görevi bu bölümler gözetilerek hazırlanmıştır ve geliştirilme süreci aşağıda ayrıntılı olarak açıklanmıştır:

Tanımlama bölümünde, performans görevinin ait olduğu ders, dil düzeyi ve kazanımları yer almaktadır. Bunun yanı sıra öğrencilerden beklenen performans tanımlanmış ve puanlama yöntemi belirtilmiştir. Beklenen performansa ilişkin kazanımlar Ankara Üniversitesi TÖMER Öğretim Programı'ndan (2015), Avrupa Ortak Başvuru Metni'nden (2021) ve Global Scale of English Learning Objectives for Academic English'ten (2022) alınmıştır.

Görev bölümünde, uluslararası öğrencilere beslenme ile ilgili on bir farklı kaynak bölümü verilmiştir. Öğrencilerden bu kaynaklardan yararlanarak beslenme kavramının farklı bir boyutunu ele alan bir derleme makalesi yazmaları istenmiştir. Belirlenen performans görevi için yabancılara Türkçe öğretimi alanında deneyimli 3 öğretim üyesinden ve uluslararası öğrencilere Türkçe öğreten kurumlarda görev yapan 4 öğretim görevlisinden uzman görüşü alınmıştır.

Yönerge bölümünde, performans görevinin istenilen düzeyde yerine getirilmesini sağlamak amacıyla görev oluşturulurken dikkat edilecek noktalar, teslim edilecek süre, ortaya konacak ürünün niteliği gibi bilgiler belirtilmiştir.

Puanlama Yöntemi bölümünde, tamamlanmış performans görevinin değerlendirileceği ölçüt ve alt ölçütlere yer verilmiştir.

Taslak Dereceli Puanlama Anahtarı

Bu çalışma kapsamında geliştirilen "Uluslararası Öğrencilere Yönelik Türkçe Akademik Yazma Analitik Dereceli Puanlama Anahtarı"nın geliştirilme süreci aşağıda aşamalar hâlinde anlatılmıştır. Bu aşamalar, çeşitli araştırmacılar tarafından açıklanan dereceli puanlama anahtarının geliştirilme adımları dikkate alınarak oluşturulmuştur (Popham, 1997; Goodrich-Andrade, 2000; Moskal, 2000; Mertler, 2001; Danielson & Hansen, 2016; Kutlu vd., 2017; Bıkmaz-Bilgen; 2023):

1. *Dereceli puanlama anahtarının kullanımının belirlenmesi*: Bu çalışmada uluslararası öğrencilerin Türkçe akademik yazma becerilerini değerlendirmek için dereceli puanlama anahtarının geliştirilmesi amaçlanmaktadır. Geliştirilen dereceli puanlama anahtarından, öğretim elemanlarına ve uluslararası öğrencilere geri bildirim kaynağı olması, söz konusu becerilerin gelişimini desteklemesi ve nesnel değerlendirmelere olanak sağlaması beklenmektedir.

2. *Kullanılacak dereceli puanlama anahtarının türüne karar verilmesi*: Çalışmada, araştırmacılar tarafından ölçütleri ve tanımları belirlenmiş bir görev bağlamında uluslararası öğrencilerin Türkçe akademik yazma becerilerinin ayrıntılı bir şekilde değerlendirilmesi istendiğinden "göreve özel analitik dereceli puanlama anahtarı" tercih edilmiştir.

3. *Performansı belirlemede kullanılacak ölçütlerin belirlenmesi*: Taslak dereceli puanlama anahtarı "Biçim" (Dil bilgisi, noktalama işaretleri, yazım kuralları, anlaşılabilirlik, sayfa düzeni), "Akademik Söylem" (Söz varlığı, cümle yapısı, üstsöylem belirleyicileri), "Metin Yapısı" (Konu, araştırmanın problem durumu ve amacı, bağdaşıklık, tutarlılık, paragraf yapısı, bilgileri sentezleme, görsel sunum), "Plan ve Düzenleme" (Başlık, özet, anahtar sözcükler, giriş, başlıklandırma, gelişme, tartışma, sonuç ve öneriler), "Kaynaklardan Yararlanma" (Kaynakça, doğrudan ve dolaylı alıntı, akademik etik ilkeler) olmak üzere 5 ana ölçüt ve 25 alt ölçütten oluşmaktadır.

Tablo 1. Performans düzeyi puan aralıkları

Aralık kat sayısı = (En Yüksek Puan-En Düşük Puan) / Ölçüt Sayısı			
(4-1)/4 = 3/4 = 0,75		(96-24)/4 = 72/4=18	
1 – 1,75	→ zayıf	24 – 41	→ zayıf
1,76 – 2,51	→ geliştirilebilir	42 – 59	→ geliştirilebilir
2,52 – 3,27	→ yeterli	60 – 77	→ yeterli
3,28 – 4,03 ~ 4,00	→ yetkin	78 – 95 ~ 96	→ yetkin

4. *Performans düzeylerinin belirlenmesi ve düzey tanımlamalarının yapılması:* Bu aşamada en yetersiz ve en yetkin performans düzeyleri saptanarak her alt ölçüt, 1 ile 4 arasında derecelendirilmiştir. Bu bağlamda, beklenen performansı çok az yerine getirerek “zayıf” düzeyde olan öğrencilerin alacağı puan 1, “geliştirilebilir” düzeyde olan öğrencilerin alacağı puan 2, “yeterli” düzeyde olan öğrencilerin alacağı puan 3, beklenen performansı tam olarak yerine getirerek “yetkin” düzeyde başarı gösteren öğrencilerin alacağı puan 4 olarak belirlenmiştir. Düzey tanımlamaları ise alanyazın taranarak, ilgili programların kazanımları (WIDA, 2014; TÖMER, 2015; AOBM, 2021; GSE, 2022) incelenerek, görüşme sonuçları değerlendirilerek ve uluslararası öğrencilerin yazma ürünlerinin çözümlenmesinden elde edilen veriler göz önüne alınarak yapılmıştır. Performans düzey tanımlamaları betimlenirken göreceli ifadelerden kaçınılmış, oldukça net ifadeler kullanılmaya çalışılmıştır. Bu amaçla ölçme aracının herhangi bir zamanda, herhangi bir kişi tarafından kullanıldığında yaklaşık aynı değerlendirmeye ulaşabilmesi adına tanımlamalarda genellikle nitel ölçütler yerine nicel ölçütler tercih edilmiştir. Diğer yandan özellikle uluslararası öğrencilerin akademik yazma ürünlerinin incelenmesinden elde edilen sonuçlar, performans düzeylerine karşılık gelen tanımlamalardaki nicel ifadelerin belirlenmesine ve ölçme aracında yer alan ilgili alt ölçütün en yüksek ve en düşük performansın sınırlarının çizilmesine yardımcı olmuştur.

5. *Uzman görüşlerinin alınması:* Bu aşamada, taslak dereceli puanlama anahtarının kapsam geçerliğini sağlamak, alt ölçütlerin ölçütlere uygunluğunu belirlemek ve düzey tanımlarının anlaşılır olup olmadığını ortaya koymak için uzman görüşü alınmıştır. Uzman grubu, Türkçe eğitimi ve Türkçenin yabancı/ikinci dil olarak öğretiminde akademik yazma konusunda deneyimli 6 öğretim üyesinden, akademik yazma ve dil becerileri konusunda çalışmaları olan 2 eğitimde ölçme ve değerlendirme uzmanından, akademik yazma konusunda deneyimli 1 İngilizce Öğretmenliği alanında görevli öğretim üyesinden ve uluslararası öğrencilere akademik Türkçe dâhil olmak üzere tüm düzeylerde ders verme deneyimine sahip 1 öğretim görevlisinden oluşmaktadır.

6. *Deneme uygulamasının yapılması:* Bu aşamada görevi en iyi ve en yetersiz şekilde yerine getiren 8 öğrencinin çalışması üzerinden deneme uygulaması yapılmıştır. Söz konusu çalışmaları 2 öğretim görevlisi taslak dereceli puanlama anahtarını kullanarak puanlamıştır. Deneme uygulamasının ardından yapılan değerlendirmelere göre taslak dereceli puanlama anahtarında gerekli düzenlemeler yapılmıştır.

7. *Geçerlik ve güvenilirlik çalışmasının yapılması:* 157 öğrenci tarafından tamamlanan performans görevleri taslak dereceli puanlama anahtarı kullanılarak puanlanmıştır. Bu puanlamalardan elde edilen sonuçlardan hareketle “Verilerin Çözümlemesi” bölümünde açıklanan istatistiksel

çözümlemeler aracılığıyla ilgili ölçme aracının geçerliği ve güvenilirliği sınanmıştır.

8. *Dereceli puanlama anahtarına son hâlinin verilmesi:* Geçerlik ve güvenilirlik analizlerinden elde edilen sonuçlara göre taslak dereceli puanlama anahtarına son hâli verilmiştir. Buna göre gözlenmek istenen performansı çok az yerine getiren ve önemli ölçüde eksiklikleri bulunan öğrencilerin alacağı en düşük puan 24, tüm görevlerde gözlenmek istenen performansı tam olarak yerine getiren öğrencilerin alacağı en yüksek puan 96 olarak belirlenmiştir. DPA'nın puan aralığı katsayısı 4 puan ve 96 puan üzerinden hesaplanmıştır.

Tablo 1’de gösterilen hesaplamalara bağlı olarak 4 puan üzerinden belirlenen aralık kat sayısı 0,75 olarak bulunmuştur. Bu değere bağlı olarak performans düzeyleri belirlenmiş ve yetkin düzeye karşılık gelen 4,03 değeri 4’e yuvarlanmıştır. 96 puan üzerinden hesaplanan aralık kat sayısı ise 18 olarak belirlenmiştir. Hesaplanan bu aralık katsayısına bağlı olarak performans düzeyleri dört eşit aralığa dağıldığında yetkin düzeye karşılık gelen 95 puan testten alınabilecek en yüksek puan olan 96’ya tamamlanmıştır.

Veri Toplama Süreci

Veri toplama süreci öncesinde çalışmanın etik kurallara uygun bir biçimde yapılandırılması için gerekli adımlar izlenmiştir. Bu bağlamda öncelikle, çalışma için gereksinim duyulan verilerin toplanabilmesi için İstanbul Üniversitesi-Cerrahpaşa Sosyal ve Beşerî Bilimler Araştırmaları Etik Kuruluna başvurulmuştur. İlgili kurumun 14.06.2022 tarihinde gerçekleştirmiş olduğu toplantıda, 2022/202 numaralı ve E-74555795-050.01.04-412030 sayılı kararı ile etik kurul onayı alınmıştır. Söz konusu onayın alınmasının ardından çalışma kapsamında yapılandırılan performans görevini akademik Türkçe öğrenimi gören ya da görmekte olan öğrencilerin tamamlaması beklendiği için söz konusu programı etkin olarak yürüten kurumlarla iletişime geçilmiştir. Kurumlardan çalışmanın gerçekleştirilebilmesi için gerekli izinler alınmıştır. Araştırmacı, ulaşabildiği çeşitli kurumlara bizzat giderek hem öğrenci hem de dersin öğretim görevlilerine performans görevinin bölümlerini, beklenen uygulamayı, önemli noktaları açıklamıştır. Ulaşma olanağı kısıtlı olan kurumlardan ise öğretim görevlileri aracılığıyla verileri toplamıştır. Araştırmacı tarafından veri toplama sürecinin başında gerekli bilgilendirmeler yapılmış ve uygulama boyunca iletilen tüm sorular yanıtlanmıştır. Çalışma kapsamında sadece elektronik ortamda oluşturulmuş metinler kabul edilmiştir. Araştırmacıya e-posta aracılığıyla toplamda 169 çalışma (derleme makalesi) ulaştırılmıştır. İlk okumaların ardından değerlendirmeye alınabilecek 157 çalışma belirlenmiştir. Öncelikle bu çalışmalardaki öğrenci kişisel bilgileri gizlenmiştir. Ardından hem öğrenci çalışmaları hem de değerlendirmede kullanılacak taslak dereceli puanlama anahtarı aynı klasörde, iki ayrı dosyada “Katılımcı 1”, “Katılımcı 2” şeklinde kodlanmıştır. Bu şekilde değerlendirilmeye hazır hâle gelen veriler, araştırmacı tarafından taslak dereceli puanlama anahtarına göre ayrı ayrı puanlanmıştır. Ayrıca performans görevini tam

olarak yerine getiren 25 öğrencinin çalışması, puanlayıcılar arası uyumu tespit etmek için araştırmacılar haricinde yabancılara Türkçe öğretimi alanında ve akademik yazma konusunda deneyimli, devlet ve vakıf üniversitelerinin dil öğretim merkezlerinde görev yapan 5 öğretim görevlisine değerlendirmeleri için aynı kodlama ve klasör düzeni içerisinde e-posta aracılığıyla gönderilmiştir. Puanlamalara başlamadan önce dereceli puanlama anahtarı araştırmacı tarafından 4 puanlayıcıya Zoom programı aracılığıyla çevrim içi ortamda; 1 puanlayıcıya ise yüz yüze tanıtılmıştır. Ayrıca değerlendirilmeye dâhil olmayan bir çalışma birlikte puanlanarak dereceli puanlama anahtarı ile ilgili sorular yanıtlanmıştır. Değerlendirmelerini tamamlayan puanlayıcılar, ilgili klasörü e-posta aracılığıyla araştırmacıya göndermiştir. Araştırmacı ve puanlayıcılar tarafından yapılan puanlama verilerinin tamamı, dereceli puanlama anahtarının geçerliğine ve güvenilirliğine yönelik istatistiksel çözümler için Excel’de oluşturulan şablona işlenmiştir.

Verilerin Çözülmesi

Bu çalışmada, uluslararası öğrencilerin Türkçe akademik yazma becerilerini değerlendirmek amacıyla geliştirilen dereceli puanlama anahtarının geçerliği ve güvenilirliği sınanmıştır. Bu amaçla öncelikle geçerlik bağlamında kapsam ve yapı geçerliği değerlendirilmiştir. Kapsam geçerliği, ölçme aracındaki maddelerin ölçülmek istenen davranışı (özelliği) ölçmede nicelik ve nitelik olarak yeterli olup olmadığının göstergesi olarak ifade edilmektedir (Büyüköztürk, 2018, s. 180). Dereceli puanlama anahtarındaki ölçüt ve alt ölçütlerin kapsam geçerlik indekslerinin belirlenmesi için Davis (1992) tekniği tercih edilmiştir. Davis (1992) tekniğine göre uzman görüşleri:

- “Madde ilgili özelliği yansıtıyor.”
- “Madde biraz düzeltilmeye gereksinim duyuyor.”
- “Madde oldukça düzeltilmeye gereksinim duyuyor.”
- “Madde ilgili özelliği yansıtıyor.” biçiminde dörtlü derecelendirilmektedir.

Uzmanlardan çalışma bağlamında oluşturulan uzman değerlendirme formunda, her bir alt ölçütü amacına uygunluk durumuna göre değerlendirmeleri istenmiştir. Bu kapsamda uzmanlar, madde (alt ölçüt) ilgili özelliği yansıtıyorsa “A”, biraz düzeltilmeye gereksinim duyuyorsa “B”, oldukça düzeltilmeye gereksinim duyuyorsa “C” ve ilgili özelliği yansıtıyorsa “D” seçeneğini işaretlemişlerdir. Davis tekniğinde maddelere (ölçütlere) ilişkin kapsam geçerlik indeksi (KGİ), A ve B seçeneğini işaretleyen uzmanların sayısının toplam uzman sayısına bölünmesi ile elde edilmektedir. Bu değer 0,80 ve üzerinde olması beklenmektedir.

Bu çalışmada geliştirilen dereceli puanlama anahtarının yapı geçerliği de sınanmıştır. “Yapı geçerliği, ölçme aracıyla ölçülmek istenen niteliğin başka özellikler karışmadan ölçebilme derecesidir.” (Güler, 2019, s. 49). Yapı geçerliğini incelemek için açılımlı ve doğrulayıcı faktör analizi yaygın olarak kullanılan iki temel analiz türüdür. Bu çalışmada yapı geçerliği, açılımlı faktör analizi (AFA) ile değerlendirilmiştir. Başol’a (2019, s. 180) göre “yeni geliştirilen bir ölçeğin ölçtüğü temel yapıları ortaya koymak için açılımlı faktör analizi yapılmaktadır.” Çokluk vd. (2021, s. 205), açılımlı faktör analizini uygulamadan önce, meydana gelebilecek sorunları en aza indirebilmek amacıyla; örneklem büyüklüğü, normallik, doğrusallık ve çoklu bağlantı gibi kavramların sorgulanması gerektiğini ifade etmektedir. Bu bağlamda çalışmada açılımlı faktör analizinden önce

veri seti üzerinde; çoklu bağlantı sorunu olup olmadığı sınanmış, normallik kontrolü için Basıklık ve Çarpıklık katsayıları hesaplanmıştır. Diğer yandan çok değişkenli normallik varsayımını sınamak ve veri yapısının örneklem büyüklüğü açısından uygunluğunu belirlemek için her ölçüt için ayrı ayrı Kaiser-Meyer-Olkin (KMO) değeri ile Bartlett küresellik testi sonuçları incelenmiştir. Söz konusu analizlerin sonuçlarına göre veri setinin faktör analizi uygulamaya uygun hâline temel bileşenler analizi kullanılarak AFA yapılmıştır. Dereceli puanlama anahtarındaki alt ölçütlerin, bulunduğu ana ölçütü karşılama durumlarını belirlemek için faktör yük değerleri hesaplanmıştır. Bunun yanı sıra dereceli puanlama anahtarının faktör yapısını belirlemek için özdeğer bulguları da incelenmiştir. Ek olarak, faktör sayısına karar vermeden önce yardımcı bir yöntem olarak çizgi grafiğine de bakılmıştır. Uygulanan faktör analizleri sonucunda her ölçüt tek bileşenden oluştuğu için döndürme işlemine gereksinim duyulmamıştır.

Dereceli puanlama anahtarının güvenilirliğini belirlemek için ise iç tutarlılık anlamında güvenilirliğe ilişkin Cronbach Alpha katsayısı hesaplanmış ve puanlayıcı güvenilirliği incelenmiştir. Cronbach Alpha güvenilirlik katsayısı her bir ölçüt ile alt ölçütlerin tamamı için hesaplanmıştır. Kutlu vd. (2017, s. 82) tarafından dereceli puanlama anahtarı açısından ele alınan güvenilirlik kavramı, puanlamanın bir puanlayıcıdan diğerine değişmemesi, yani tutarlılık olarak tanımlanmaktadır. Geliştirilen bir ölçme aracı puanların güvenilirliklerinin belirlenmesi için puanlayıcılar arası güvenilirlik katsayısının hesaplanması önerilmektedir (Moskal & Leydens, 2000). Bu çalışmada, puanlayıcılar arası güvenilirliğe kanıt sağlamak için 6 puanlayıcının değerlendirmelerindeki uyum hesaplanırken alt ölçütler likert yapıda ve ikiden fazla puanlayıcı olduğundan her bir alt ölçüte ilişkin Fleiss Kappa değeri; ana ölçütler, alt ölçütlerin toplanması ile elde edildiği için Sınıf İçi Korelasyon (Intra-Class Correlation) katsayısı kullanılmıştır. Dereceli puanlama anahtarının güvenilirliğine kanıt oluşturma bağlamında ayrıca madde-toplam puan korelasyonları da incelenmiştir. Dereceli puanlama anahtarındaki alt ölçütlerin, ölçütlerle ve toplam puanla olan korelasyonları değerlendirilmiştir. “Madde-toplam puan korelasyonu, test maddelerinden alınan puan ile testin toplam puanı arasındaki ilişkiyi açıklamaktadır.” (Büyüköztürk, 2018, s. 183).

Uluslararası öğrencilerin akademik yazma becerilerinin değerlendirilmesine yönelik olarak geliştirilen taslak dereceli puanlama anahtarının yapı geçerliğine ilişkin açılımlı faktör analizi (AFA), güvenilirliğine ilişkin Cronbach Alpha katsayısı, puanlayıcılar arası uyumu belirleyebilmek için Sınıf İçi Korelasyon, madde-toplam puan korelasyon katsayıları SPSS 29 istatistik paket programı ve Fleiss Kappa katsayısı R programı kullanılarak çözümlenmiştir.

Bulgular

Dereceli Puanlama Anahtarının Geçerlik Analizi Sonuçlarına İlişkin Bulgular

Bu bölümde, uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarından kapsam ve yapı geçerliği bağlamında elde edilen bulgular ayrı başlıklarda gösterilmiştir.

Dereceli Puanlama Anahtarının Kapsam Geçerliğine İlişkin Bulguları

Davis (1992) tekniği kullanılarak hesaplanan taslak dereceli puanlama anahtarının (DPA) kapsam geçerlik indekslerine

(KGİ) ilişkin bulgularının yer aldığı Tablo 2’de incelendiğinde taslak DPA’nın ana ölçütlerinin ve alt ölçütlerinin 0,80 ila 1 arasında kapsam geçerlik indeksine sahip olduğu görülmektedir. Bu oranlar taslak DPA’da yer alan tüm ölçüt ve alt ölçütlerin kapsam geçerliği bakımından yeterli düzeyde olduğunu göstermektedir. (Davis Sayısı $\geq 0,80$). Uzmanların görüşleri doğrultusunda; “Yazım ve Noktalama” alt ölçütü, “Yazım Kuralları” ve “Noktalama İşaretleri” olarak iki ayrı ölçüte ayrılmıştır. “Sayfa Düzeni” tek bir ölçütte birleştirilerek uluslararası öğrencilerden performans görevini sadece elektronik ortamda tamamlamaları istenmiştir. “Etkileşimsel Üstsöylem Belirleyicileri” ve “Etkileşimli Üstsöylem Belirleyicileri” alt ölçütleri, “Üstsöylem Belirleyicileri” ölçütünde bütünleştirilerek “Akademik Söylem” ölçütünün altında değerlendirilmiştir. “Araştırma Problemi ve Amacı” alt ölçütü, “Araştırmanın Problem Durumu ve Amacı” olarak; “Bilgileri Özetleme” alt ölçütü, “Bilgileri Sentezleme” olarak; “Sonuç ve Öneriler” alt ölçütü, “Tartışma, Sonuç ve Öneriler” olarak yeniden tanımlanmıştır. Ayrıca uzmanların önerileri doğrultusunda ölçüt tanımlamaları yeniden gözden geçirilmiştir. Düzenlenmiş taslak DPA; 1’i ölçme ve değerlendirme, 3’ü Türkçe eğitimi alanından olmak üzere 4 öğretim üyesinin görüşüne tekrar sunulmuştur. Öğretim üyelerinin değerlendirmeleri göz önüne alınarak taslak DPA’da düzenlemeler yapılmıştır.

Dereceli Puanlama Anahtarının Yapı Geçerliğine İlişkin Bulguları

Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarına yapı geçerliği çalışması bağlamında açımlayıcı faktör analizi (AFA) uygulanmıştır. AFA, söz konusu aracın faktör yapısını ortaya koymak amacıyla 157 uluslararası öğrenciden elde edilen veriler (performans görevi) üzerinden yapılmıştır.

Tablo 2. Taslak DPA kapsam geçerlik indeksi

		A	B	C	D	KGİ	KGİ
Biçim	Dil Bilgisi	3	6	1	0	0,90	
	Yazım ve Noktalama	6	3	1	0	0,90	
	Anlaşılabilirlik	5	5	0	0	1	0,92
	Sayfa Düzeni (Bilgisayar)	7	2	1	0	0,90	
	Sayfa Düzeni (El yazısı)	5	4	0	1	0,90	
Akademik Söylem	Söz Varlığı	8	2	0	0	1	0,95
	Cümle Yapısı	8	1	1	0	0,90	
Metin Yapısı	Konu	7	3	0	0	1	
	Araştırma Problemi ve Amacı	9	1	0	0	1	
	Bağdaşıklık	9	1	0	0	1	
	Tutarlılık	9	1	0	0	1	0,99
	Paragraf Yapısı	8	2	0	0	1	
	Bilgileri Özetleme	7	2	1	0	0,90	
	Görsel Sunum	8	2	0	0	1	
Üstsöylem Belirleyicileri	Etkileşimsel Üstsöylem Belirleyicileri	7	3	0	0	1	1
	Etkileşimli Üstsöylem Belirleyicileri	8	2	0	0	1	
Plan ve Düzenleme	Başlık	7	3	0	0	1	
	Özet	7	3	0	0	1	
	Anahtar Sözcükler	7	3	0	0	1	
	Giriş	6	4	0	0	1	
	Başlıklandırma	7	2	1	0	0,90	0,94
	Gelişme	7	1	2	0	0,80	
	Sonuç ve Öneriler	8	1	1	0	0,90	
	Kaynakça	8	1	1	0	0,90	
Kaynaklardan Yararlanma	Doğrudan ve Dolaylı Alıntı	9	1	0	0	1	1
	Akademik Etik İlkeler	7	3	0	0	1	

Öncelikle veri setinin AFA’nın uygulanmasına uygun olup olmadığının belirlenmesi için çeşitli varsayımlar sınanmıştır. Bu kapsamda ilk olarak DPA’nın alt ölçütleri arasında çoklu bağlantı sorunu olup olmadığı kontrol edilmiş ve ardından alt ölçütlere ait normallik kontrolü için Basıklık ve Çarpıklık katsayıları hesaplanmıştır. Çoklu bağlantı durumunu sınamak için alt ölçütlerin birbiriyle olan ilişkileri Pearson Korelasyon katsayısı ile değerlendirilmiştir ve 0,90’dan daha yüksek hesaplanan bir korelasyon katsayısı bulunmadığından alt ölçütler arasında çoklu bağlantı sorununa rastlanmamıştır. Diğer yandan, alt ölçütlerin Basıklık ve Çarpıklık katsayılarının -2 ve +2 arasında olması normal dağılıma uygun olduğunu ifade etmektedir. “Görsel Sunum” alt ölçütünün Çarpıklık değeri 3,501; Basıklık değeri ise 11,759 olarak hesaplandığından normal dağılıma uygunluk göstermemektedir. Bu nedenle “Görsel Sunum” alt ölçütünün, AFA yapılmasına uygun olmadığı sonucuna varılmış ve ölçme aracından çıkarılmıştır. DPA’yı oluşturan her bir ölçüte ilişkin yapılan AFA’ya yönelik bulgular ayrı başlıklar hâlinde sunulmuştur.

Biçim Ölçütü İçin Açımlayıcı Faktör Analizi Bulguları

AFA yapılmadan önce “Biçim” ölçütü için örneklem büyüklüğünün yeterliğini değerlendirmek amacıyla Kaiser-Meyer-Olkin (KMO) ve alt ölçütler arasındaki ilişkinin uygunluğu için Bartlett küresellik testi uygulanmıştır. “Biçim” ölçütü için KMO değeri 0,762 olarak hesaplanmış ve bu değer veri yapısının faktör analizi için yeterli olduğu sonucuna ulaşılmıştır. Bartlett küresellik testi sonuçları incelendiğinde ise ki-kare değeri ($X^2=517,818$, $p<0,001$) istatistiksel olarak anlamlı bulunmuş ve dolayısıyla verilerin çok değişkenli normal dağılıma uygun olduğu tespit edilmiştir.

Tablo 3. Biçim ölçütünde yer alan alt ölçütlere ait faktör yüklerine ilişkin bulgular

	Faktör Yüğü (Communalities)	
	Başlangıç	Ekstraksiyon
Dil Bilgisi	1,000	0,677
Noktalama İşaretleri	1,000	0,800
Yazım Kuralları	1,000	0,814
Anlaşılabilirlik	1,000	0,711
Sayfa Düzeni	1,000	0,327

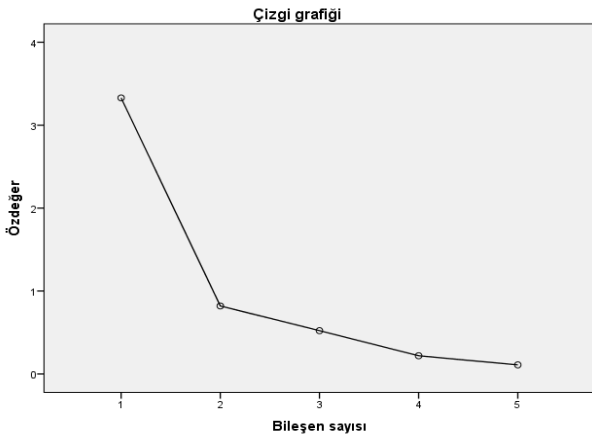
Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

Tablo 3'te "Biçim" ölçütünde yer alan alt ölçütlere ait faktör yüklerinin 0,30'dan yüksek olduğu görülmektedir. Söz konusu alt ölçütlerin "Biçim" ölçütü için AFA'da kullanılabileceği söylenebilir.

Tablo 4. Biçim ölçütü için AFA sonucunda faktörlere ilişkin bulgular

Bileşen	Açıklanan Toplam Varyans			
	Başlangıç	Özdeğerleri	Kare Yüklerin Çıkarma Toplamları	
	Toplam Varyans	Kümülatif %	Toplam Varyans	Kümülatif %
1	3,329	66,578	3,329	66,578
2	0,820	16,402	4,149	82,980
3	0,522	10,440	4,671	93,420
4	0,219	4,387	4,890	97,807
5	0,110	2,193	5,000	100,000

Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

**Şekil 1.** Biçim ölçütü için özdeğer bileşen çizgi grafiği

"Biçim" ölçütüne ilişkin AFA sonucunda elden edilen faktörlere ilişkin bulguların gösterildiği Tablo 4 incelendiğinde başlangıç özdeğerleri 1'den büyük olan sadece bir bileşen olduğu görülmüş ve bu bileşen ile "Biçim" ölçütüne ait varyansın toplam %66,578'inin açıklandığı gözlenmiştir.

"Biçim" ölçütü için özdeğer bileşen çizgi grafiği incelendiğinde (Şekil 1) 1. Bileşene ait özdeğerin 1'den yüksek olduğu, diğer bileşenlere ait özdeğerlerin ise 1'in altında olduğu görülmüş, bu alt ölçütler ile "Biçim" ölçütünün tek bir faktör ile açıklandığı belirlenmiştir.

Tablo 5 incelendiğinde "Biçim" ölçütünü oluşturan alt ölçütlerin tek bir bileşen ile açıklandığı görülmektedir. Bu nedenle bir döndürme yöntemi kullanılarak rotasyon matrisinin oluşturulmasına gereksinim duyulmamıştır.

Tablo 5. Biçim ölçütüne ait bileşen matrisine ilişkin bulgular

	Bileşen Matrisi	
	Bileşen 1	
Dil Bilgisi	0,823	
Noktalama İşaretleri	0,894	
Yazım Kuralları	0,902	
Anlaşılabilirlik	0,843	
Sayfa Düzeni	0,572	

Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

Akademik Söylem Ölçütü İçin Açıklayıcı Faktör Analizi Bulguları

"Akademik Söylem" ölçütü için AFA yapılmadan önce örneklem büyüklüğünün yeterliğini değerlendirmek amacıyla Kaiser-Meyer-Olkin (KMO) ve alt ölçütler arasındaki ilişkinin uygunluğu için Bartlett küresellik testi uygulanmıştır. "Akademik Söylem" ölçütü için KMO değeri 0,690 olarak hesaplanmış ve bu değer veri yapısının faktör analizi için yeterli olduğu sonucuna ulaşılmıştır. Bartlett küresellik testi sonuçları incelendiğinde ise ki-kare değeri ($X^2=247,616$, $p<0,001$) istatistiksel olarak anlamlı bulunmuş ve dolayısıyla verilerin çok değişkenli normal dağılıma uygun olduğu tespit edilmiştir.

Tablo 6. Akademik söylem ölçütünde yer alan alt ölçütlere ait faktör yüklerine ilişkin bulgular

	Faktör Yüğü (Communalities)	
	Başlangıç	Ekstraksiyon
Söz Varlığı	1,000	0,857
Cümle Yapısı	1,000	0,822
Üstsöylem Belirleyicileri	1,000	0,679

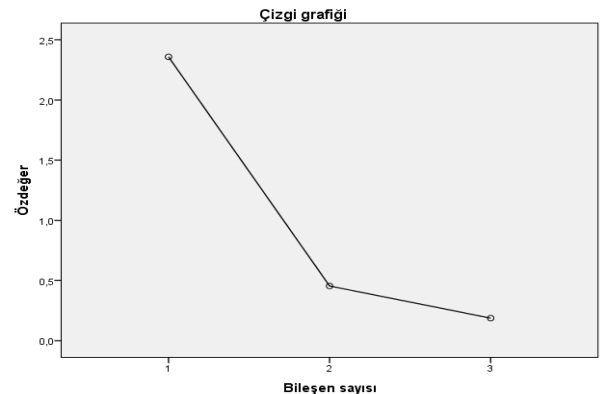
Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

"Akademik Söylem" ölçütünde yer alan alt ölçütlere ait faktör yüklerinin 0,30'dan yüksek olduğu ve bu alt ölçütlerin "Akademik Söylem" ölçütü için AFA'da kullanılabileceği görülmüştür (Tablo 6).

Tablo 7. Akademik söylem ölçütü için AFA sonucunda faktörlere ilişkin bulgular

Bileşen	Açıklanan Toplam Varyans			
	Başlangıç	Özdeğerleri	Kare Yüklerin Çıkarma Toplamları	
	Toplam	Varyans Kümülatif %	Toplam	Varyans Kümülatif %
1	2,358	78,613	2,358	78,613
2	0,454	15,145	2,812	93,758
3	0,187	6,242	3,000	100,000

Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

**Şekil 2.** Akademik söylem ölçütü için özdeğer bileşen çizgi grafiği

“Akademik Söylem” ölçütüne ilişkin AFA sonucunda elden edilen faktörlere ilişkin bulguların gösterildiği Tablo 7 incelendiğinde başlangıç özdeğerleri 1’den büyük olan sadece bir bileşen olduğu görülmüş ve bu bileşen ile “Akademik Söylem” ölçütüne ait varyansın toplam %78,613’ünün açıklandığı gözlenmiştir.

“Akademik Söylem” ölçütü için özdeğer bileşen çizgi grafiği incelendiğinde (Şekil 2) 1. Bileşene ait özdeğerin 1’den yüksek olduğu, diğer bileşenlere ait özdeğerlerin ise 1’in altında olduğu görülmüş, bu alt ölçütler ile “Akademik Söylem” ölçütünün tek bir faktör ile açıklandığı tespit edilmiştir.

Tablo 8. Akademik söylem ölçütüne ait bileşen matrisine ilişkin bulgular

Bileşen Matrisi	
	Bileşen
	1
Söz Varlığı	0,926
Cümle Yapısı	0,906
Üstsöylem Belirleyicileri	0,824

Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

Tablo 8 incelendiğinde “Akademik Söylem” ölçütünü oluşturan alt ölçütlerin tek bir bileşen ile açıklandığı görülmektedir. Bu nedenle bir döndürme yöntemi kullanılarak rotasyon matrisinin oluşturulmasına gereksinim duyulmamıştır.

Metin Yapısı Ölçütü İçin Açıklayıcı Faktör Analizi Bulguları

“Metin Yapısı” ölçütü için AFA yapılmadan önce örneklem büyüklüğünün yeterliğini değerlendirmek amacıyla Kaiser-Meyer-Olkin (KMO) ve alt ölçütler arasındaki ilişkinin uygunluğu için Bartlett küresellik testi uygulanmıştır. “Metin Yapısı” ölçütü için KMO değeri 0,868 olarak hesaplanmış ve bu değer veri yapısının faktör analizi için yeterli olduğu sonucuna ulaşılmıştır. Bartlett küresellik testi sonuçları incelendiğinde ise ki-kare değeri ($X^2=579,990$, $p<0,001$) istatistiksel olarak anlamlı bulunmuş ve dolayısıyla verilerin çok değişkenli normal dağılıma uygun olduğu tespit edilmiştir.

Tablo 9. Metin yapısı ölçütünde yer alan alt ölçütlere ait faktör yüklerine ilişkin bulgular

Faktör Yüğü (Communalities)			
		Başlangıç	Ekstraksiyon
Konu		1,000	0,728
Araştırmanın Problem Durumu ve Amacı		1,000	0,363
Bağdaşıklık		1,000	0,656
Tutarlılık		1,000	0,786
Paragraf Yapısı		1,000	0,723
Bilgileri Sentezleme		1,000	0,738

Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

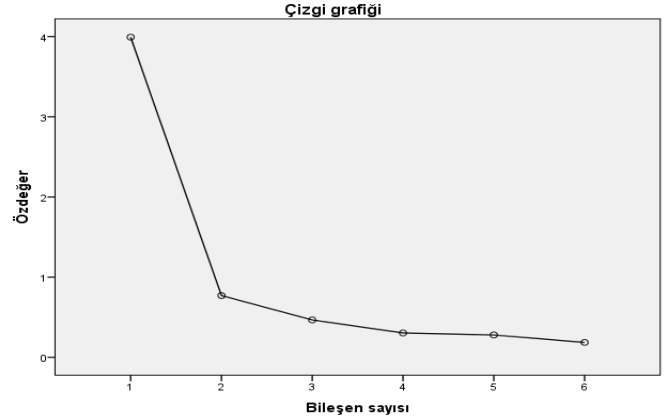
“Metin Yapısı” ölçütünde yer alan alt ölçütlere ait faktör yüklerinin 0,30’dan yüksek olduğu ve bu alt ölçütlerin “Metin Yapısı” ölçütü için AFA’da kullanılabilceği görülmüştür (Tablo 9).

“Metin Yapısı” ölçütüne ilişkin AFA sonucunda elden edilen faktörlere ilişkin bulguların gösterildiği Tablo 10 incelendiğinde başlangıç özdeğerleri 1’den büyük olan sadece bir bileşen olduğu görülmüş ve bu bileşen ile “Metin Yapısı” ölçütüne ait varyansın toplam %66,560’ını açıklandığı gözlenmiştir.

Tablo 10. Metin yapısı ölçütü için AFA sonucunda faktörlere ilişkin bulgular

Açıklanan Toplam Varyans					
Bileşen	Başlangıç	Özdeğerleri	Kare Yüklerin	Çıkarma	Toplamları
	Toplam Varyans	Kümülatif	Toplam Varyans	Kümülatif	
	%	%	%	%	
1	3,994	66,560	66,560	3,994	66,560
2	0,770	12,842	79,402		
3	0,467	7,778	87,179		
4	0,304	5,070	92,250		
5	0,279	4,651	96,900		
6	0,186	3,100	100,000		

Ekstraksiyon Yöntemi: Temel Bileşenler Analizi



Şekil 3. Metin yapısı ölçütü için özdeğer bileşen çizgi grafiği

“Metin Yapısı” ölçütü için özdeğer bileşen çizgi grafiği incelendiğinde (Şekil 3) 1. Bileşene ait özdeğerin 1’den yüksek olduğu, diğer bileşenlere ait özdeğerlerin ise 1’in altında olduğu görülmüş, bu alt ölçütler ile “Metin Yapısı” ölçütünün tek bir faktör ile açıklandığı tespit edilmiştir.

Tablo 11. Metin yapısı ölçütüne ait bileşen matrisine ilişkin bulgular

Bileşen Matrisi	
	Bileşen
	1
Konu	0,853
Araştırmanın Problem Durumu ve Amacı	0,602
Bağdaşıklık	0,810
Tutarlılık	0,887
Paragraf Yapısı	0,850
Bilgileri Sentezleme	0,859

Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

Tablo 11 incelendiğinde “Metin Yapısı” ölçütünü oluşturan alt ölçütlerin tek bir bileşen ile açıklandığı görülmektedir. Bu nedenle bir döndürme yöntemi kullanılarak rotasyon matrisinin oluşturulmasına gereksinim duyulmamıştır.

Plan ve Düzenleme Ölçütü İçin Açıklayıcı Faktör Analizi Bulguları

“Plan ve Düzenleme” ölçütü için AFA yapılmadan önce örneklem büyüklüğünün yeterliğini değerlendirmek amacıyla Kaiser-Meyer-Olkin (KMO) ve alt ölçütler arasındaki ilişkinin uygunluğu için Bartlett küresellik testi uygulanmıştır. “Plan ve Düzenleme” ölçütü için KMO değeri 0,878 olarak hesaplanmış ve bu değer veri yapısının faktör analizi için

yeterli olduğu sonucuna ulaşılmıştır. Bartlett küresellik testi sonuçları incelendiğinde ise ki-kare değeri ($X^2=555,924$, $p<0,001$) istatistiksel olarak anlamlı bulunmuş ve dolayısıyla verilerin çok değişkenli normal dağılıma uygun olduğu tespit edilmiştir.

Tablo 12. Plan ve düzenleme ölçütünde yer alan alt ölçütlere ait faktör yüklerine ilişkin bulgular

	Faktör Yüğü (Communalities)	
	Başlangıç	Ekstraksiyon
Başlık	1,000	0,507
Özet	1,000	0,652
Anahtar Sözcükler	1,000	0,516
Giriş	1,000	0,639
Başlıklandırma	1,000	0,667
Gelişme	1,000	0,661
Tartışma, Sonuç ve Öneriler	1,000	0,634

Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

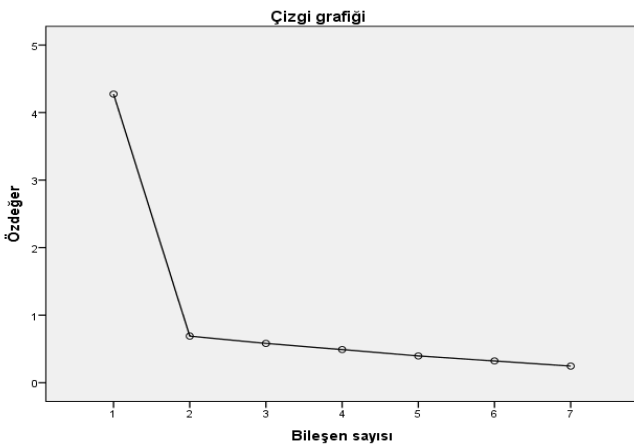
“Plan ve Düzenleme” ölçütünde yer alan alt ölçütlere ait faktör yüklerinin 0,30’dan yüksek olduğu ve bu alt ölçütlerin “Plan ve Düzenleme” ölçütü için AFA’da kullanılabileceği görülmüştür (Tablo 12).

Tablo 13. Plan ve düzenleme ölçütü için AFA sonucunda faktörlere ilişkin bulgular

Bileşen	Açıklanan Toplam Varyans					
	Başlangıç Özdeğerleri			Kare Yüklerin Çıkarma Toplamları		
	Toplam	Varyans %	Kümülatif %	Toplam	Varyans %	Kümülatif %
1	4,275	61,067	61,067	4,275	61,067	61,067
2	0,690	9,857	70,923			
3	0,581	8,303	79,226			
4	0,491	7,012	86,239			
5	0,396	5,654	91,893			
6	0,322	4,604	96,497			
7	0,245	3,503	100,000			

Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

“Plan ve Düzenleme” ölçütüne ilişkin AFA sonucunda elden edilen faktörlere ilişkin bulguların gösterildiği Tablo 13 incelendiğinde başlangıç özdeğerleri 1’den büyük olan sadece bir bileşen olduğu görülmüş ve bu bileşen ile “Plan ve Düzenleme” ölçütüne ait varyansın toplam %61,067’sinin açıklandığı gözlenmiştir.



Şekil 4. Plan ve düzenleme ölçütü için özdeğer bileşen çizgi grafiği

“Plan ve Düzenleme” ölçütü için özdeğer bileşen çizgi grafiği incelendiğinde (Şekil 4) 1. Bileşene ait özdeğerin 1’den

yüksek olduğu, diğer bileşenlere ait özdeğerlerin ise 1’in altında olduğu görülmüş, bu alt ölçütler ile “Plan ve Düzenleme” ölçütünün tek bir faktör ile açıklandığı tespit edilmiştir.

Tablo 14. Plan ve düzenleme ölçütüne ait bileşen matrisine ilişkin bulgular

	Bileşen Matrisi	
	Bileşen 1	
Başlık	0,712	
Özet	0,807	
Anahtar Sözcükler	0,718	
Giriş	0,800	
Başlıklandırma	0,817	
Gelişme	0,813	
Tartışma, Sonuç ve Öneriler	0,796	

Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

Tablo 14 incelendiğinde “Plan ve Düzenleme” ölçütünü oluşturan alt ölçütlerin tek bir bileşen ile açıklandığı görülmektedir. Bu nedenle bir döndürme yöntemi kullanılarak rotasyon matrisinin oluşturulmasına gereksinim duyulmamıştır.

Kaynaklardan Yararlanma Ölçütü İçin Açıklayıcı Faktör Analizi Bulguları

“Kaynaklardan Yararlanma” ölçütü için AFA yapılmadan önce örneklem büyüklüğünün yeterliliğini değerlendirmek amacıyla Kaiser-Meyer-Olkin (KMO) ve alt ölçütler arasındaki ilişkinin uygunluğu için Bartlett küresellik testi uygulanmıştır. “Kaynaklardan Yararlanma” ölçütü için KMO değeri 0,724 olarak hesaplanmış ve bu değer veri yapısının faktör analizi için yeterli olduğu sonucuna ulaşılmıştır. Bartlett küresellik testi sonuçları incelendiğinde ise ki-kare değeri ($X^2=232,163$, $p<0,05$) istatistiksel olarak anlamlı bulunmuş ve dolayısıyla verilerin çok değişkenli normal dağılıma uygun olduğu tespit edilmiştir.

Tablo 15. Kaynaklardan yararlanma ölçütünde yer alan alt ölçütlere ait faktör yüklerine ilişkin bulgular

	Faktör Yüğü (Communalities)	
	Başlangıç	Ekstraksiyon
Kaynakça	1,000	0,804
Doğrudan ve Dolaylı Alıntı	1,000	0,831
Akademik Etik İlkeler	1,000	0,738

Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

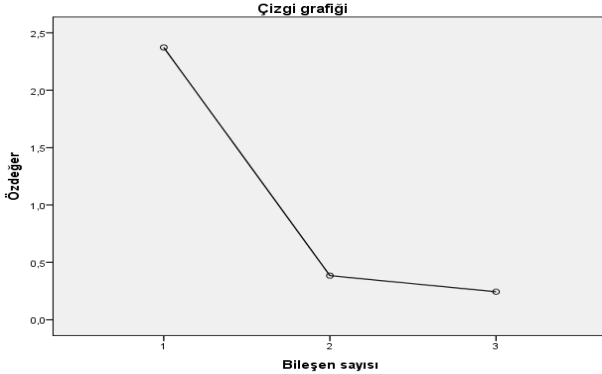
“Kaynaklardan Yararlanma” ölçütünde yer alan alt ölçütlere ait faktör yüklerinin 0,30’dan yüksek olduğu ve bu alt ölçütlerin “Kaynaklardan Yararlanma” ölçütü için AFA’da kullanılabileceği görülmüştür (Tablo 15).

Tablo 16. Kaynaklardan yararlanma ölçütü için AFA sonucunda faktörlere ilişkin bulgular

Bileşen	Açıklanan Toplam Varyans					
	Başlangıç Özdeğerleri			Kare Yüklerin Çıkarma Toplamları		
	Toplam	Varyans %	Kümülatif %	Toplam	Varyans %	Kümülatif %
1	2,373	79,085	79,085	2,373	79,085	79,085
2	0,384	12,800	91,884			
3	0,243	8,116	100,000			

Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

“Kaynaklardan Yararlanma” ölçütüne ilişkin AFA sonucunda elden edilen faktörlere ilişkin bulguların gösterildiği Tablo 16 incelendiğinde başlangıç özdeğerleri 1’den büyük olan sadece bir bileşen olduğu görülmüş ve bu bileşen ile “Kaynaklardan Yararlanma” ölçütüne ait varyansın toplam %79,085’inin açıklandığı gözlenmiştir.



Şekil 5. Kaynaklardan yararlanma ölçütü için özdeğer bileşen çizgi grafiği

“Kaynaklardan Yararlanma” ölçütü için özdeğer bileşen çizgi grafiği incelendiğinde (Şekil 5) 1. Bileşene ait özdeğerin 1’den yüksek olduğu, diğer bileşenlere ait özdeğerlerin ise 1’in altında olduğu görülmüş, bu alt ölçütler ile “Plan ve Düzenleme” ölçütünün tek bir faktör ile açıklandığı tespit edilmiştir.

Tablo 17. Kaynaklardan yararlanma ölçütüne ait bileşen matrisine ilişkin bulgular

Bileşen Matrisi	Bileşen
	1
Kaynakça	0,897
Doğrudan ve Dolaylı Alıntı	0,912
Akademik Etik İlkeler	0,859

Ekstraksiyon Yöntemi: Temel Bileşenler Analizi

Tablo 17 incelendiğinde “Plan ve Düzenleme” ölçütünü oluşturan alt ölçütlerin tek bir bileşen ile açıklandığı görülmektedir. Bu nedenle bir döndürme yöntemi kullanılarak rotasyon matrisinin oluşturulmasına gereksinim duyulmamıştır.

DPA’nın “Plan ve Düzenleme” ölçütü faktör analizi öncesinde “Başlık”, “Özet”, “Anahtar sözcükler”, “Giriş”, “Başlıklandırma”, “Gelişme”, “Tartışma, Sonuç ve Öneriler”, “Kaynakça” alt ölçütlerinden oluşmaktayken; faktör analizi sonrasında “Kaynakça” alt ölçütü “Plan ve Düzenleme” ölçütünden çıkartılarak “Kaynaklardan Yararlanma” ölçütü kapsamına dâhil edilmiştir. Bu sayede “Plan ve Düzenleme” ana ölçütünün açıklanan varyansı 58,806’dan 61,067’ye yükselmiş; “Kaynaklardan Yararlanma” ölçütünün KMO değeri ise 0,500’den 0,720’ye çıkmıştır. Böylelikle “Kaynaklardan Yararlanma” ölçütü “Doğrudan ve Dolaylı Alıntı” ve “Akademik Etik İlkeler” alt ölçütleri ile faktör analizi uygulanabilir yeterli örneklem genişliği varsayımlarını sağlamıştır.

Dereceli Puanlama Anahtarının Güvenirlik Analizi Sonuçlarına İlişkin Bulguları

Bu bölümde uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarından; Cronbach Alfa güvenirlik katsayı, puanlayıcılar arası uyum ve madde geçerliğine kanıt olarak hesaplanan

madde-toplam korelasyonu bağlamında elde edilen bulgular ayrı başlıklarda gösterilmiştir.

Dereceli Puanlama Anahtarının Cronbach Alfa Güvenirlik Katsayına İlişkin Bulguları

Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarının güvenirlik çalışması bağlamında iç tutarlılığa dayalı yöntemlerden biri olan Cronbach Alfa güvenirlik katsayı hesaplanmıştır. 5 ana ölçüt ve tüm alt ölçütlerin toplamı için AFA öncesi ve sonrası elde edilen çözümlene sonuçları bütüncül olarak değerlendirildiğinde Cronbach Alpha güvenirlik katsayısının “Biçim” ölçütü için 0,851; “Akademik Söylem” ölçütü için 0,863; AFA’dan önceki “Metin Yapısı” ölçütü için 0,846 iken, AFA’dan sonra 0,891; AFA’dan önceki “Plan ve Düzenleme ölçütü” için 0,892 iken, AFA’dan sonra 0,885; AFA’dan önceki “Kaynaklardan Yararlanma” ölçütü için 0,797 iken, AFA’dan sonra 0,867 olduğu belirlenmiştir. Sözü edilen ölçme aracının toplam Cronbach Alpha güvenirlik katsayısı AFA’dan önce 0,953 iken, AFA’dan sonra 0,956 olarak hesaplanmıştır. Bu hesaplamalar sonucunda DPA’nın beş ana ölçütü ve tüm alt ölçütlerin toplamı için güvenirliğinin iyi ve mükemmel düzeyde olduğu söylenebilir.

Puanlayıcılar Arasındaki Uyuma İlişkin Bulgular

Puanlayıcılar arasındaki uyum için 6 puanlayıcının yaptığı puanlamalar üzerinden alt ölçütlerin her bir için Fleiss Kappa katsayısı (Tablo 18); ana ölçütler için Sınıf İçi Korelasyon katsayısı (Tablo 19) hesaplanmıştır.

Tablo 18. Alt ölçütlerin puanlayıcılar arası uyumuna ilişkin bulguları

Alt ölçütler	Fleiss Kappa	p
Dil Bilgisi	0,752	<0,001
Noktalama İşaretleri	0,707	<0,001
Yazım Kuralları	0,680	<0,001
Anlaşılabilirlik	0,637	<0,001
Sayfa Düzeni	0,816	<0,001
Söz Varlığı	0,700	<0,001
Cümle Yapısı	0,675	<0,001
Üstsöylem Belirleyicileri	0,788	<0,001
Konu	0,645	<0,001
Araştırmanın Problem Durumu ve Amacı	0,718	<0,001
Bağdaşlılık	0,768	<0,001
Tutarlılık	0,761	<0,001
Paragraf Yapısı	0,660	<0,001
Bilgileri Sentezleme	0,819	<0,001
Görsel Sunum	0,871	<0,001
Başlık	0,710	<0,001
Özet	0,837	<0,001
Anahtar Sözcükler	0,909	<0,001
Giriş	0,661	<0,001
Başlıklandırma	0,700	<0,001
Gelişme	0,728	<0,001
Tartışma, Sonuç ve Öneriler	0,832	<0,001
Kaynakça	0,765	<0,001
Doğrudan ve Dolaylı Alıntı	0,679	<0,001
Akademik Etik İlkeler	0,822	<0,001

Tablo 18’e göre alt ölçütler için puanlayıcılar arası uyum düzeyleri; en düşük “Anlaşılabilirlik”, en yüksek “Anahtar Sözcükler” olmak üzere 0,637-0,909 arasında değişim göstermektedir. Alt ölçütlere ait bütün uyum katsayıları istatistiksel olarak anlamlı olarak tespit edilmiştir (p<0,05). Hesaplanan Fleiss Kappa değerleri, puanlayıcılar arası uyumun yüksek ve çok yüksek düzeyde olduğunu göstermektedir.

Tablo 19. Ölçütlerin puanlayıcılar arası uyumuna ilişkin bulguları

		Sınıf Korelasyon	İçî %95 Güven Aralığı		F Testi			p
			Alt limit	Üst limit	Değer	Sd1	Sd2	
Biçim	Tek Ölçüm	0,909	0,845	0,954	71,429	24	120	<0,001
	Ortalama Ölçümler	0,984	0,970	0,992	71,429	24	120	<0,001
Akademik Söylem	Tek Ölçüm	0,932	0,886	0,965	83,052	24	120	<0,001
	Ortalama Ölçümler	0,988	0,979	0,994	83,052	24	120	<0,001
Metin Yapısı	Tek Ölçüm	0,965*	0,939*	0,982*	180,990*	24	120	<0,001
	Ortalama Ölçümler	0,966	0,941	0,983	190,376	24	120	<0,001
Plan ve Düzenleme	Tek Ölçüm	0,994*	0,989*	0,997*	180,990*	24	120	<0,001
	Ortalama Ölçümler	0,994	0,990	0,997	190,376	24	120	<0,001
Kaynaklardan Yararlanma	Tek Ölçüm	0,985*	0,973*	0,992*	402,285*	24	120	<0,001
	Ortalama Ölçümler	0,980	0,966	0,990	301,546	24	120	<0,001
Toplam	Tek Ölçüm	0,997*	0,995*	0,999*	402,285*	24	120	<0,001
	Ortalama Ölçümler	0,997	0,994	0,998	301,546	24	120	<0,001
Toplam	Tek Ölçüm	0,940*	0,898*	0,969*	97,331*	24	120	<0,001
	Ortalama Ölçümler	0,960	0,931	0,980	157,284	24	120	<0,001
Toplam	Tek Ölçüm	0,989*	0,981*	0,995*	97,331*	24	120	<0,001
	Ortalama Ölçümler	0,993	0,988	0,997	157,284	24	120	<0,001
Toplam	Tek Ölçüm	0,993*	0,988*	0,997*	903,709*	24	120	<0,001
	Ortalama Ölçümler	0,993	0,988	0,997	926,871	24	120	<0,001
Toplam	Tek Ölçüm	0,999*	0,998*	0,999*	930,709*	24	120	<0,001
	Ortalama Ölçümler	0,999	0,998	0,999	926,871	24	120	<0,001

*Faktör analizi öncesi

Tablo 19'a göre puanlayıcılar arası uyum düzeyleri tek ölçümlerde en düşük "Biçim" ölçütüne ait iken, en yüksek "Plan ve Düzenleme" olmak üzere 0,909-0,980 arasında değişim göstermektedir. Puanlayıcılar arası uyum düzeyleri ortalama ölçümlerde en düşük "Biçim" ölçütüne ait iken, en yüksek "Plan ve Düzenleme" olmak üzere 0,984-0,997 arasında değişim göstermektedir. Ölçütlerin toplamından elde

edilen "Toplam" puan değeri ise tek ölçümde 0,993 hesaplanırken, ortalama ölçümlerde 0,999 olarak hesaplanmıştır. Ölçütlere ve toplam puana ait bütün tek ve ortalama ölçüm uyum katsayıları istatistiksel olarak anlamlı olarak tespit edilmiştir ($p < 0,05$). Tüm ölçütler için hesaplanan Sınıf İçî Korelasyon değerleri tek ve ortalama ölçümlerde mükemmel uyum göstermektedir.

Tablo 20. Madde-toplam korelasyon katsayılarına ilişkin bulgular

	Biçim	Akademik Söylem	Metin Yapısı	Plan ve Düzenleme	Kaynaklardan Yararlanma	Toplam Puan
Dil Bilgisi	0,801					0,568
Noktalama İşaretleri	0,867					0,638
Yazım Kuralları	0,874					0,574
Anlaşılabilirlik	0,829					0,621
Sayfa Düzeni	0,666					0,716
Söz Varlığı		0,921				0,785
Cümle Yapısı		0,903				0,710
Üstsöylem Belirleyicileri		0,832				0,782
Konu			0,858			0,817
Araştırmanın Problem Durumu ve Amacı			0,662			0,659
Bağdaşıklık			0,787			0,698
Tutarlılık			0,867			0,759
Paragraf Yapısı			0,834			0,752
Bilgileri Sentezleme			0,856			0,825
Başlık				0,705		0,644
Özet				0,823		0,649
Anahtar Sözcükler				0,766		0,613
Giriş				0,778		0,677
Başlıklandırma				0,808		0,714
Gelişme				0,797		0,833
Tartışma, Sonuç ve Öneriler				0,774		0,750
Kaynakça					0,899	0,628
Doğrudan ve Dolaylı Alıntı					0,916	0,689
Akademik Etik İlkeler					0,851	0,701

Dereceli Puanlama Anahtarındaki Alt Ölçütlerin Madde Geçerlik Düzeylerine İlişkin Bulgular

Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen DPA’da alt ölçütlerin, ilgili olduğu ölçüt ve toplam puanla uyumlu olup olmadığını belirlemek amacıyla madde geçerlik düzeylerine ilişkin Pearson Korelasyon katsayısı kullanılarak hesaplanan bulguların yer aldığı Tablo 20 incelendiğinde “Biçim” ölçütündeki alt ölçütlerin madde-toplam korelasyon değerlerinin 0,666 ile 0,874 arasında; “Akademik Söylem” ölçütündeki alt ölçütlerin madde-toplam korelasyon değerlerinin 0,832 ile 0,921 arasında; “Metin Yapısı” ölçütündeki alt ölçütlerin madde-toplam korelasyon değerlerinin 0,662 ile 0,867 arasında; “Plan ve Düzenleme” ölçütündeki alt ölçütlerin madde-toplam korelasyon değerlerinin 0,705 ile 0,823 arasında; “Kaynaklardan Yararlanma” ölçütündeki alt ölçütlerin madde-toplam korelasyon değerlerinin 0,851 ile 0,916 arasında değiştiği görülmektedir. Ayrıca alt ölçütler ile toplam puan arasındaki madde-toplam korelasyon değerleri 0,568 ile 0,833 arasında değişmektedir. Madde-toplam korelasyon değerlerinin tamamı 0,05 düzeyinde anlamlıdır. Hesaplamalar, bütün madde-toplam korelasyon değerlerinin 0,30’dan yüksek ve pozitif olduğunu ortaya koymaktadır. Bu bulgular, DPA’daki alt ölçütlerin, ölçütlerle ve toplam puanla tutarlı olduğunu, öğrencileri iyi derecede ayırt ettiğini ve aynı davranışı ölçen maddeler olduğunu göstermektedir.

Tartışma, Sonuç ve Öneriler

Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen dereceli puanlama anahtarının geçerliğinin sınanması bağlamında kapsam ve yapı geçerliği değerlendirilmiştir. Kapsam geçerliği için taslak DPA’nın 6 ana ölçüt ve 26 alt ölçütten oluşan ilk hâli; alt ölçütlerin, ölçütlere uygunluğunu belirlemek ve düzey tanımlarının anlaşılır olup olmadığını ortaya koymak için 10 uzmandan görüş alınmıştır. Uzmanlardan gelen yanıtlara göre ölçüt ve alt ölçütlerin kapsam geçerlik indeksleri Davis (1992) tekniği kullanılarak belirlenmiştir. Alanyazında Lawshe (1975) tekniği ve Davis (1992) tekniği, kapsam geçerlik indeksi (KGI) kullanılarak ölçme aracı geliştirme sürecinde en yaygın olarak kullanılan iki teknik arasında yer almaktadır. Lynn (1986) kapsam geçerlik indeksini belirlemek için alınan uzman görüşlerinde; tarafsız ve kararsız bir orta noktadan kaçınılması gerektiği için en uygun dereceleminin 4’lü olduğunu ve uzman sayısının da en az 3 olması gerektiğini; fakat 10 uzmandan fazlasının da gereksiz olduğunu belirtmektedir. Çalışma kapsamında geliştirilen DPA’nın ana ölçütlerinin ve alt ölçütlerinin 0,80 ila 1 arasında kapsam geçerlik indeksine sahip olduğu görülmektedir. Bu oranlar, taslak DPA’da yer alan tüm ölçüt ve alt ölçütlerin kapsam geçerliği bakımından yeterli düzeyde olduğunu göstermektedir. (Davis Sayısı \geq 0,8). Bunun yanı sıra uzmanların görüşleri doğrultusunda DPA’nın ölçüt ve alt ölçütleri gözden geçirilmiştir. Bu bağlamda taslak DPA, 5 ana ölçüt (biçim, akademik söylem, metin yapısı, plan ve düzenleme, kaynaklardan yararlanma) ve 25 alt ölçüt (dil bilgisi, noktalama işaretleri, yazım kuralları, anlaşılabilirlik, sayfa düzeni, söz varlığı, cümle yapısı, üstsöylem belirleyicileri, konu, araştırmanın problem durumu ve amacı, bağdaşıklık, tutarlılık, paragraf yapısı, bilgileri sentezleme, görsel sunum, başlık, özet, anahtar sözcükler, giriş, başlıklandırma, gelişme, tartışma, sonuç ve öneriler, kaynakça, doğrudan ve dolaylı alıntı, akademik etik ilkeler) olmak üzere yeniden

düzenlenmiştir. Alanyazında farklı hedef kitleler ve öğrenme alanlarına ilişkin geliştirilen ölçme araçlarının kapsam geçerlik indekslerinin belirlenmesi için Davis (1992) tekniğinin kullanıldığı tespit edilmiştir (Bozkurt ve Arıca-Akkök, 2019; Arıcı, 2022; İltar ve Karataş, 2022). Söz konusu çalışmalarda kullanılan teknik ile bu çalışmada kapsam geçerliğinin belirlenmesi amacıyla kullanılan teknik koşutluk göstermektedir.

Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarına yapı geçerliği çalışması bağlamında 157 uluslararası öğrenciden elde edilen veriler (performans görevi) üzerinden açımlayıcı faktör analizi (AFA) uygulanmıştır. Bu bağlamda ilk olarak verilerin AFA’ya uygunluğunu tespit etmek amacıyla DPA’nın alt ölçütleri arasında çoklu bağlantı sorunu olup olmadığı kontrol edilmiş ve ardından alt ölçütlere ait normallik kontrolü için Basıklık ve Çarpıklık katsayıları hesaplanmıştır. Basıklık ve Çarpıklık katsayılarının -2 ve +2 arasında olması verilerin normal dağılıma uygun olduğunu kanıtlamaktadır (George & Mallery, 2022, s. 115). Çoklu bağlantı, değişkenler arasındaki korelasyonların ($r > 0,90$ ve üzeri) yüksek olması durumunda ortaya çıkmaktadır” (Çokluk vd., 2021, s. 210). Yapılan hesaplamalarda; 0,90’dan daha yüksek bir korelasyon katsayısı bulunmadığı için çoklu bağlantı sorununun olmadığı ve “Görsel Sunum” alt ölçütü dışında diğer alt ölçütlerin Basıklık ve Çarpıklık katsayılarının -2 ve +2 arasında değiştiği için normal dağılıma uygun olduğu sonucuna ulaşılmıştır. “Görsel Sunum” alt ölçütünün Çarpıklık değeri 3,501; Basıklık değeri ise 11,759 hesaplandığından, normal dağılıma uygunluk göstermediği için AFA’nın yapılmasının uygun olmadığı sonucuna varılmıştır ve ölçme aracından çıkarılmıştır. Bu değerler ortaya çıkma sebebi olarak öğrencilerin çok büyük bir bölümünün performans görevlerinde tablo, şekil, grafik vb. görselleri kullanmamaları gösterilebilir. Öğrenciler tarafından kullanılmayan görseller, “Görsel Sunum” alt ölçütü için verilen puanın benzer şekilde tekrarlanmasına ve söz konusu ölçüte ilişkin verilerin normal dağılıma uygunluk göstermemesine neden olmuştur. Öğrencilerin uygulama öncesinde değerlendirme ölçütlerinden haberdar olmalarına rağmen görsel, tablo, şekil vb. araçlar ile akademik yazılarını desteklememeleri, akademik yazma bağlamında görsel kullanımını önemli görmedikleri sonucunu ortaya koymaktadır. Bunların yanı sıra AFA yapılmadan önce ölçütler için örneklem büyüklüğünün yeterliliğini tespit etmek amacıyla Kaiser-Meyer-Olkin (KMO) ve alt ölçütler arasındaki ilişkinin faktör analizine uygunluğunu belirlemek için Bartlett Küresellik testi uygulanmıştır. Çözümlemelerde KMO değeri “Biçim” ölçütü için 0,762; “Akademik Söylem” ölçütü için 0,690; “Metin Yapısı” ölçütü için 0,868; “Plan ve Düzenleme” ölçütü için 0,878 ve “Kaynaklardan Yararlanma” ölçütü için 0,724 olarak hesaplanmıştır. Ayrıca tüm alt ölçütler için Bartlett Küresellik testinde ki-kare değeri (“Biçim” için $X^2=517,818$, $p < 0,001$; “Akademik Söylem” için $X^2=247,616$, $p < 0,001$; “Metin Yapısı” için $X^2=579,990$, $p < 0,001$; “Plan ve Düzenleme” için $X^2=555,924$, $p < 0,001$; “Kaynaklardan Yararlanma” için $X^2=232,163$, $p < 0,001$) istatistiksel olarak anlamlı bulunmuştur. “Kaynaklardan Yararlanma” ölçütünün hesaplanan ilk KMO değeri 0,500 olarak hesaplandığı için “Plan ve Düzenleme” ölçütünde yer alan “Kaynakça” alt ölçütünün yeri değiştirilmiştir ve böylelikle “Kaynaklardan Yararlanma” ana ölçütü “Doğrudan ve Dolaylı Alıntı” ve “Akademik Etik İlkeler” alt ölçütleri ile faktör analizi uygulanabilir yeterli örneklem genişliği varsayımlarını

sağlamıştır. Tüm bu sonuçlardan hareketle; bütün ölçütlerin KMO değerinin 0,60'tan yüksek çıkması (Büyüköztürk, 2018) ve verilerin çok değişkenli normal dağılıma uygun olması (Çokluk vd., 2021) AFA'nın söz konusu ölçme aracına uygulanabilirliğini kanıtlamaktadır.

Veri setinin faktör analizi uygulamaya uygun hâli ile temel bileşenler analizi kullanılarak AFA yapılmıştır. DPA'nın alt ölçütlerinin bulunduğu ana ölçütü karşılama düzeylerini tespit etmek için faktör yük değerleri hesaplanmıştır. Ayrıca faktör yapısını belirlemek için özdeğer bulguları da incelenmiştir. Ek olarak faktör sayısına karar vermeden önce yardımcı bir yöntem olarak çizgi grafiği de gözlemlenmiştir. Çözümlemeler sonucunda DPA'nın tüm alt ölçütlerinin faktör yüklerinin 0,30'dan yüksek olduğu gözlemlendiği için bulunduğu ölçütü iyi derecede ölçtüğü belirlenmiştir. Kline (1994) 0,30 ve daha yüksek olan faktör yüklerini yeterli olarak görmektedir. Benzer şekilde Büyüköztürk (2002) de 0,30-0,59 arasındaki yük değerlerini orta; 0,60 ve üstü yük değerlerini yüksek büyüklükler olarak tanımlamaktadır. Ayrıca DPA'da her bir ölçütte özdeğeri 1'den büyük (Çokluk vd., 2021) olan tek bir bileşenin bulunduğu ve bu durumun çizgi grafiğinde de görüldüğü tespit edilmiştir. Dolayısıyla alt ölçütlerin, bağlantılı olduğu ölçütleri tek faktörlü bir yapıda açıkladığı sonucuna varılmıştır. Başlangıç özdeğerleri 1'den büyük olan tek bileşenin, bağlı olduğu ölçüte ait varyansları incelendiğinde; "Biçim" ölçütü için %66,578'ini; "Akademik Söylem" ölçütü için %78,613'ünü, "Metin Yapısı" ölçütü için %66,560'ını, "Plan ve Düzenleme" ölçütü için %61,067'sini ve "Kaynaklardan Yararlanma" ölçütü için %79,085'ini açıkladığı gözlenmiştir. Alpar'a (2017) göre sosyal bilimlerde açıklanan varyans değerinin %60 olması gerekli görülmektedir. Bu bağlamda mevcut çalışmada hesaplanan varyans değerlerinin yeterli olduğu sonucuna ulaşılmıştır. Ayrıca uygulanan faktör analizleri sonucunda her ölçüt, tek bileşenden oluştuğu için döndürme işlemine gereksinim duyulmamıştır. Alanyazında dereceli puanlama anahtarı geliştirme çalışmalarında (Öztürk ve Kaplan, 2017; Yılmaz ve İnceağaç, 2017; Aktaş ve Alıcı, 2018; Yılmaz ve Canpolat, 2020) söz konusu aracın yapı geçerliğini sınamak amacıyla gerçekleştirilen açımlayıcı faktör analizinde (AFA), bu çalışmada izlenen aşamalar takip edilmiş ve elde edilen değerler benzer şekilde yorumlanmıştır.

Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarının güvenilirliği bağlamında Cronbach Alfa iç tutarlılık katsayısına, puanlayıcılar arası uyuma ve madde-toplam korelasyon değerlerine bakılmıştır. Geliştirilen analitik dereceli puanlama anahtarının Cronbach Alpha güvenilirlik katsayısı AFA'dan önce ve sonra olmak üzere iki ayrı şekilde her bir ölçüt ve alt ölçütlerin toplamı için hesaplanmıştır. Bu hesaplamalar sonucunda Cronbach Alpha güvenilirlik katsayısının "Biçim" ölçütü için 0,851, "Akademik Söylem" ölçütü için 0,863, "Metin Yapısı" ölçütü için AFA'dan önce 0,846 iken AFA'dan sonra 0,891, "Plan ve Düzenleme" ölçütü için AFA'dan önce 0,892 iken AFA'dan sonra 0,885, "Kaynaklardan Yararlanma" ölçütü için AFA'dan önce 0,797 iken AFA'dan sonra 0,867 olduğu belirlenmiştir. Sözü edilen ölçme aracının toplam Cronbach Alpha güvenilirlik katsayısı ise AFA'dan önceki hâli için 0,953; AFA'dan sonraki hâli için 0,956 olarak hesaplanmıştır. Alanyazında güvenilirlik katsayısının yorumlanmasına ilişkin farklı görüşler yer almaktadır. Ancak kaynakların çoğunda güvenilirlik katsayısının 0,70 ve daha yüksek olması ölçme aracının güvenilirliği için yeterli olarak kabul edilmektedir (Nunnally,

1978; Büyüköztürk, 2018; Sönmez ve Alacapınar, 2019). Benzer şekilde, George & Mallery (2022) her durum için kabul edilebilir bir Alfa değerine ilişkin kesin bir yorum yapılamayacağını belirterek, çoğu durumda kabul edilebilirlik ölçütlerini; 0,70'ten büyükse kabul edilebilir düzeyde, 0,80'den büyükse iyi düzeyde ve 0,90'dan büyükse mükemmel düzeyde olarak ele almaktadır. Bu çalışmada Cronbach Alfa güvenilirlik katsayısına ilişkin yapılan hesaplamalar sonucunda DPA'nın tamamı ve beş ana ölçütü için güvenilirliğinin iyi ve mükemmel düzeyde olduğu görülmektedir.

DPA'ya yönelik yapılacak güvenilirlik çalışmalarında uygulanabilecek bir diğer yöntem ise puanlar arasındaki tutarlılığa bakmaktır. Bu amaçla bir göreve dayalı geliştirilmiş DPA'nın birden çok değerlendirici tarafından puanlanması sağlanmalıdır (Kutlu vd., 2017). Bu çalışmada araştırmacı dâhil 6 puanlayıcı 25 öğrencinin performans görevini değerlendirmiştir. Puanlayıcılar arası uyumu değerlendirmek için her alt ölçüt ayrı ayrı ve ikiden fazla puanlayıcı tarafından değerlendirildiğinden dolayı Fleiss Kappa değerleri hesaplanmış; ana ölçütler, alt ölçütlerin toplanması ile elde edildiği için Sınıf İçi Korelasyon (Intra-Class Correlation) katsayısı kullanılmıştır. Kutlu vd. (2017) toplam puan üzerinden uyum düzeylerine bakılacağı zaman Kendall W veya Sınıf İçi Korelasyon Katsayısına; her ölçüt için ayrı ayrı uyum düzeyi değerlendirilmek istendiğinde iki puanlayıcı için Cohen's Kappa, ikiden fazla puanlayıcı için Fleiss Kappa formülünün kullanılması gerektiğini belirtmektedir. Uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarına ait alt ölçütler için puanlayıcılar arası uyum düzeyleri; en düşük "Anlaşılabilirlik", en yüksek "Anahtar Sözcükler" olmak üzere 0,637-0,909 arasında değişim göstermektedir. -1 ile +1 arasında değer alan Fleiss Kappa katsayısı alanyazında, 0,41-0,60 arasında orta düzeyde; 0,61-0,80 arasında yüksek düzeyde; 0,81-1 arasında çok yüksek düzeyde uyum biçiminde yorumlanmaktadır (Fleiss, 1971; Landis & Koch, 1977). Buna göre DPA'nın alt ölçütlerine ilişkin hesaplanan Fleiss Kappa değerleri, puanlayıcılar arası uyumun yüksek ve çok yüksek düzeyde olduğunu göstermektedir. Bunun yanı sıra DPA'daki beş ölçütün Sınıf İçi Korelasyon katsayısı sonuçları değerlendirildiğinde puanlayıcılar arası uyum düzeylerinin tek ölçümlerde en düşük "Biçim" ölçütüne, en yüksek "Plan ve Düzenleme" ölçütüne ait olmak üzere 0,909-0,980 arasında değişim gösterdiği görülmektedir. Ortalama ölçümlerde ise en düşük uyum düzeyi "Biçim" ölçütüne, en yüksek "Plan ve Düzenleme" ölçütüne ait olmak üzere 0,984-0,997 arasında değişim göstermektedir. DPA'dan alınan "Toplam" puan değeri ise tek ölçümlerde 0,993 hesaplanırken, ortalama ölçümlerde 0,999 olarak hesaplanmıştır. Alanyazında, Sınıf İçi Korelasyon (Intraclass Correlation Coefficient) katsayısının 0 ve 1 arasında değerler aldığı belirtilmiş olup; 0,50'den küçük değerler zayıf güvenilirliği, 0,50-0,75 arasındaki değerler orta düzeyde güvenilirliği, 0,75-0,90 arasındaki değerler iyi güvenilirliği ve 0,90'dan büyük değerler mükemmel güvenilirliği göstermektedir. (Koo & Li, 2016). Buna göre DPA'nın tüm ölçütleri ve toplam puanı için hesaplanan Sınıf İçi Korelasyon değerlerinin tek ve ortalama ölçümlerde mükemmel uyum gösterdiği tespit edilmiştir. Tüm bu bulgular bütüncül olarak değerlendirildiğinde, puanlayıcılar arasında yüksek ve çok yüksek uyum olduğu sonucuna ulaşılmıştır. Bu sonuç DPA kullanılarak yapılan değerlendirmelerde; puanlamanın puanlayıcılar arasında değişmediğini, puanlayıcıların birbiriyle tutarlı puanlar verdiğini ve nesnellüğün sağlandığını göstermektedir. Benzer şekilde

alanyazında DPA kullanılmasının nesnellığı artırdığına ilişkin sonuçları ortaya koyan çalışmalara rastlanmıştır (Erman-Aslanoğlu ve Kutlu, 2003; Bıkmaz-Bilgen ve Doğan, 2017; Bilican-Demir ve Yıldırım, 2019; Polat-Demir, 2020; Yorgancı ve Baş, 2021). Diğer yandan çeşitli araştırmalarda (Durmuş, 2022; Tarakcı, 2022) DPA geliştirme sürecinde güvenilirliğin sınanması bağlamında puanlayıcılar arası uyumu belirlemek için kullanılan yöntemler ile bu çalışmada kullanılan yöntemlerin koşutluk gösterdiği tespit edilmiştir.

Bu çalışma kapsamında madde geçerliğine kanıt olarak DPA'da alt ölçütlerin ilgili olduğu ana ölçüt ve toplam puanla uyumlu olup olmadığını belirlemek amacıyla madde-toplam korelasyonları hesaplanmıştır. Madde-toplam korelasyonunun pozitif ve yüksek olması, maddelerin benzer davranışları örneklediğini göstermektedir ve testin iç tutarlılığının yüksek olduğunu kanıtlamaktadır. Bu bağlamda madde-toplam korelasyonu 0,30 ve daha yüksek olan maddelerin, bireyleri iyi derecede ayırt edebildiği için doğrudan teste alınması önerilmektedir. 0,20 ile 0,30 arasında kalan maddelerin ise zorunlu olması durumunda alınabileceği veya düzeltilmesi gerektiği belirtilmektedir. Bunun yanı sıra, 0,20'den düşük maddelerin ise teste kesinlikle alınmaması gerektiği ifade edilmektedir (Büyüköztürk, 2018, s. 183). Madde-toplam korelasyon değerlerini belirlemeye yönelik yapılan hesaplamalar sonucunda ana ölçütlerdeki alt ölçütlerin madde-toplam korelasyonlarının tamamının 0,30'dan yüksek olduğu tespit edilmiştir. Ayrıca alt ölçütler ile toplam puan arasındaki madde-toplam korelasyon değerlerinin; en düşük "Dil Bilgisi", en yüksek "Gelişme" alt ölçütü olmak üzere 0,568 ile 0,833 arasında değiştiği görülmüştür. Tüm hesaplamalardan elde edilen madde-toplam korelasyon değerlerinin beklenen düzeyden yüksek ve pozitif olmasından dolayı DPA'daki alt ölçütlerin, ölçütlerle ve toplam puanla tutarlı olduğu sonucuna ulaşılmıştır. Alanyazında farklı amaçlarla geliştirilen dereceli puanlama anahtarı çalışmalarında (Polat-Demir, 2020; Bülbül ve Bülbül, 2021) madde geçerliğine kanıt olarak madde-toplam korelasyon değerlerinin incelendiği görülmektedir. Söz konusu çalışmalar ile mevcut çalışmanın bu bağlamda benzerlik gösterdiği söylenebilir.

Bu çalışmada geçerlik ve güvenilirlik çalışmaları sonucunda uluslararası öğrencilerin Türkçe akademik yazma becerilerine yönelik geliştirilen analitik dereceli puanlama anahtarının son hâli, 5 ana ölçüt ve 24 alt ölçütten oluşmuştur. Ana ölçütler, alt ölçütleriyle birlikte şöyle sıralanmaktadır: "Biçim" (Dil bilgisi, noktalama işaretleri, yazım kuralları, anlaşılabilirlik, sayfa düzeni), "Akademik Söylem" (Söz varlığı, cümle yapısı, üstsöylem belirleyicileri), "Metin Yapısı" (Konu, araştırmanın problem durumu ve amacı, bağdaşıklık, tutarlılık, paragraf yapısı, bilgileri sentezleme), "Plan ve Düzenleme" (Başlık, özet, anahtar sözcükler, giriş, başlıklandırma, gelişme, tartışma, sonuç ve öneriler), "Kaynaklardan Yararlanma" (Kaynakça, doğrudan ve dolaylı alıntı, akademik etik ilkeler). Alanyazın incelendiğinde uluslararası öğrencilerin Türkçe akademik yazma gereksinimlerini temele alarak geliştirilen bir ölçme aracı tespit edilemese de farklı hedef kitlelerin ilgili becerilerini ölçmek amacıyla kullanılan çeşitli türlerde ölçme araçları olduğu belirlenmiştir (Aydın, 2015; Izawa et al., 2017; Shekarabi, 2017; Al-Abdullatif et al., 2020; Polat-Demir, 2020; Baz-Bolluk ve Batur, 2023). Al-Abdullatif et al. (2020) çalışmasında; "Doğruluk", "Açıklık", "Tutarlılık" ve "Sözcük Kullanımı" olmak üzere 4 boyuttan oluşan bir ölçekte lisans öğrencilerinin akademik yazma becerilerini ölçmüştür. Aydın'ın (2015), Razi'dan (2015) uyarladığı Akademik Makale Değerlendirme Rubriği ise "Genel Özellikler",

"Özet", "Giriş", "Yöntem", "Bulgular ve Yorum", "Sonuç ve Öneriler", "Kaynakça" olmak üzere 7 bölümden ve 50 maddeden oluşmaktadır. Izawa et al. (2017) tarafından kullanılan akademik yazma analitik dereceli puanlama anahtarı; "Tez ve İçerik", "Organizasyon", "Dil Bilgisi ve Mekanik (Noktalama işaretleri, yazım kuralları, sözcük kullanımı, cümle yapısı vb.)", "Sözcük Bilgisi", "Ton" ve "Uzunluk" olmak üzere 6 ölçütten oluşmaktadır. Shekarabi (2017) ikinci dil olarak Japonca öğrenen öğrencilerin eleştirel düşünme becerilerinin akademik yazmaya etkisini araştırdığı çalışmasında; "İçerik", "Organizasyon", "Tutarlılık", "Dil Doğruluğu" ve "Mekanik" olmak üzere 5 ölçütten oluşan dereceli puanlama anahtarını kullanmıştır. Polat-Demir'in (2020) lisans öğrencilerinin akademik yazma becerilerini değerlendirmek için göreve dayalı (derleme makalesi) olarak geliştirdiği dereceli puanlama anahtarı; "Görev Tanımı", "İçerik", "Kaynak Kullanımı", "Anlatım" ve "Biçimsel Özellikler" olmak üzere 5 ana ölçüt ve 18 alt ölçütten oluşmaktadır. Baz-Bolluk ve Batur (2023) akademik yazma çalışmalarının yeterliğini değerlendirmeye yönelik "Başlık", "Özet", "Giriş", "Yöntem", "Bulgu ve Yorumlar", "Sonuç ve Tartışma", "Öneri", "Kaynakça", "Dil ve Anlatım" ve son olarak "Diğer" olmak üzere 61 maddeden ve 10 alt boyuttan oluşan bir ölçme aracı geliştirmiştir. Mevcut çalışmada geliştirilen DPA'daki ölçüt ve alt ölçütler, söz konusu çalışmalarda yer alan ölçüt ve alt ölçütleri büyük oranda kapsamakla birlikte çalışmanın hedef kitlesine özgü özellikleri de göz önünde bulundurularak oluşturulmuştur. Özetle, bu çalışma kapsamında geliştirilen "Uluslararası Öğrencilere Yönelik Türkçe Akademik Yazma Analitik Dereceli Puanlama Anahtarı"nın söz konusu öğrencilerin ilgili becerilerini ölçebilecek nitelikte geçerli ve güvenilir bir araç olduğu sonucuna varılmıştır.

Araştırmadan elde edilen sonuçlar göz önünde bulundurularak program tasarımcılarına, uygulayıcılara ve araştırmacılara katkı sağlayacak öneriler aşağıda sıralanmıştır:

1. Bu çalışma kapsamında geliştirilen performansa dayalı analitik dereceli puanlama anahtarının bazı alt ölçütlerinde değişiklikler yapılarak farklı akademik metin türleri, dil düzeyleri ve öğretim kademeleri için uyarlama çalışmaları yapıp, tekrar geçerlik ve güvenilirlik durumları sınanabilir. Benzer şekilde ana dillerinde öğrenim gören öğrencilerin Türkçe akademik yazma becerilerinin değerlendirilmesinde de söz konusu DPA'nın kullanılıp kullanılmayacağına ilişkin mevcut ölçme aracı üzerinde geçerlik ve güvenilirlik çalışmaları yapılarak sonuçları yorumlanabilir.
2. Çalışmada geliştirilen DPA, yapı geçerliği bağlamında açımlayıcı faktör analizi (AFA) ile değerlendirilmiştir. AFA ile elde edilen verilerin doğrulanıp doğrulanmadığını belirlemek amacıyla yeni bir öğrenci grubundan elde edilen veriler ile doğrulayıcı faktör analizi (DFA) gerçekleştirilebilir.
3. Bu çalışma bağlamında geliştirilen analitik dereceli puanlama anahtarındaki ana ölçüt, alt ölçüt ve düzey tanımlamalarının, hem hazırlanacak akademik yazma kazanımları ve ders içeriklerine hem de öğretim görevlilerine yol gösterici olacağı düşünülmektedir. Bu bağlamda tüm paydaşlar, bu çalışmadan elde edilen verilerden faydalanabilir.

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Extended Summary

Introduction

Language skills refer to the competencies required for understanding, using, and communicating in a language. These skills are divided into two parts: comprehension and expressive skills. People need both comprehension and expression skills to interact with each other and communicate their ideas. While reading and listening constitute the comprehension dimension of language, speaking and writing constitute the expression dimension. All of these language skills are interrelated, and all these skills need to be developed both for the acquisition of the mother tongue and for the learning of a foreign/second language.

In the process of developing language skills, learners may encounter various levels and types of difficulties. In general, it is seen that these difficulties experienced by learners and even instructors in the educational process are related to writing skills. The concept of academic writing has emerged with the use of writing for academic purposes. This concept has been defined in different ways by many researchers in national and international literature (Hogue, 2008; Irvin, 2010; Swales & Feak, 2012; Tok, 2013; Bahar, 2014; Aydın, 2015; Kan, 2017; Karagöl, 2018; Güngör 2020). Based on the definitions and explanations of the related concept, academic writing can be defined as a type of writing in which the results of research conducted in an academic context are reported by paying attention to specific principles in terms of form, discourse, text structure, plan and organization, and resource use, and which requires the effective use of higher-order thinking skills. According to Demirci (2014), it is important to provide students with experience in academic writing to develop these skills. Various courses and lessons have been planned in order to provide experience in this skill, which is especially needed by university students. When considered in the context of teaching Turkish as a foreign/second language, these courses and lectures, which are generally united under the umbrella of academic Turkish, should aim to teach international students the features and rules of academic language, reaching valid and reliable sources by conducting a literature review, creating scientific texts, paying attention to formal features in academic writing, citing and organizing bibliography, complying with ethical principles, etc. through different applications.

In the development of academic writing skills, giving regular constructive feedback and learning from mistakes are as important as having experiences (Pineteh, 2014; Demirci, 2014). Learning from mistakes is made possible by recognizing mistakes and deficiencies. Measurement and evaluation are of great importance in order to determine the strengths and weaknesses of individuals, to eliminate their deficiencies, to correct mistakes, and to contribute to their development. In order to determine the strengths and weaknesses of individuals, appropriate measurement tools should be used (Polat-Demir, 2020, p. 321).

One of the most effective measurement tools that can be used in the measurement, evaluation, and development of academic writing skills, which require the use of high-level thinking skills and include many dimensions such as form, discourse, text, plan, resource use, and ethics, is the analytical rubric. Rubrics have great importance in the field of teaching Turkish as a foreign/second language and academic writing, as in other fields and subjects.

When the literature is examined, it is seen that in the field of teaching Turkish as a foreign/second language, there are

mostly studies on the development of rubrics for the evaluation of writing skills (Yorgancı & Baş, 2021; Durmuş, 2022; Kahveci, 2022; Harmanakaya et al., 2022; Tekin & Sallabaş, 2022), it was also determined that various types of measurement tools were developed to measure the academic writing skills of different target groups (Aydın, 2015; Izawa et al., 2017; Shekarabi, 2017; Al-Abdullatif et al., 2020; Polat-Demir, 2020; Baz-Bolluk & Batur, 2023). However, there is no study on the development of an analytical rubric whose task-based validity and reliability have been tested with multidimensional analysis techniques for the assessment of the relevant skill based on the Turkish academic writing needs of international students. Therefore, this study aimed to develop an analytical rubric for the assessment of the relevant skill based on the Turkish academic writing needs of international students. In line with this main purpose, the questions aimed to be answered in the study can be listed as follows:

1. What are the validity analysis results of the analytical rubric developed for international students' Turkish academic writing skills?
 - a. What is the content validity of the analytical rubric developed for international students' Turkish academic writing skills?
 - b. What is the construct validity of the analytical rubric developed for international students' Turkish academic writing skills?
2. What are the reliability analysis results of the analytical rubric developed for international students' Turkish academic writing skills?
 - a. What is the Croanbach's Alpha reliability coefficient of the analytical rubric developed for international students' Turkish academic writing skills?
 - b. How is the agreement between the raters in the evaluations made according to the analytical rubric developed for international students' Turkish academic writing skills?
 - c. What is the item validity level of the sub-criteria in the analytical rubric developed for international students' Turkish academic writing skills?

It is thought that the developed analytical rubric will contribute to the field in terms of helping to make objective evaluations, contributing to the development of students' Turkish academic writing skills, and guiding both instructors/teachers and students/learners by providing feedback on the achievement of the relevant skill.

Method

In this study, which aims to develop an analytical rubric for the evaluation of international students' Turkish academic writing skills, exploratory sequential design, which is a mixed design strategy, was used. In the exploratory sequential design, "the researcher develops a tool as a middle step between the stages based on qualitative results and uses this tool while collecting quantitative data" (Creswell & Plano-Clark, 2018, p. 94). "The exploratory sequential design theoretically starts with qualitative data collected from a small study group. In the light of the findings and results obtained by analyzing qualitative data, a quantitative measurement tool is developed, and this quantitative phase constitutes the second and final phase of the exploratory design" (Teddlie & Tashakkori, 2006, p. 21 cited in Özdemir, 2018, p. 495).

In this study, a performance task and a draft rubric were used to collect data. First of all, a performance task consisting

of four parts: description, task, instructions, and scoring was created to reflect the academic writing skills of international students and to test the validity and reliability of the draft DPA. The performance task was completed by 157 international students who were selected using criterion sampling, which is one of the purposive sampling methods. The basic understanding of criterion sampling, which is one of the types of purposive sampling that emerged within the qualitative research tradition and is defined as the most appropriate sampling method for qualitative research, is to study situations that meet a set of predetermined criteria (Yıldırım & Şimşek, 2011). The reason for choosing criterion sampling in the study is the idea of determining the participants according to predefined criteria. The international students within the scope of the study were expected to meet the criteria of having come to Turkey for higher education, having graduated from C1 level, and having taken an academic Turkish course. The other data collection tool, the draft "Analytical Rubric for International Students' Turkish Academic Writing Skills" was created by considering the steps suggested by various researchers (Popham, 1997; Goodrich-Andrade, 2000; Moskal, 2000; Mertler, 2001; Danielson & Hansen, 2016; Kutlu et al., 2017; Bıkmaz-Bilgen; 2023). These steps can be listed as follows:

- Determining the purpose of using the rubric
- Deciding on the type of rubric to be used
- Determining the criteria to be used in determining performance
- Determination of performance levels and level definitions
- Obtaining expert opinions
- Conducting a trial application
- Validity and reliability study
- Finalizing the rubric

Within the scope of the validity study of the draft DPA, construct validity was examined with the Davis (1992) technique in the context of the opinions of 10 experts, and construct validity was examined with exploratory factor analysis. As part of the reliability study, the Cronbach's Alpha coefficient, Intraclass Correlation and Fleiss Kappa agreement coefficient over the evaluations of six raters, and item-total correlations were calculated as evidence of item validity.

Discussion, Conclusion, and Suggestions

It is seen that the main criteria and sub-criteria of the DCI developed within the scope of the study have content validity indices between 0.80 and 1. These ratios indicate that all criteria and sub-criteria in the draft DPA are at a sufficient level in terms of content validity. (Davis Number ≥ 0.8). In the literature, it was found that Davis (1992) technique was used to determine the content validity indices of measurement tools developed for different target groups and learning domains (Bozkurt & Arıca-Akkök, 2019; Arıcı, 2022; İltar & Karataş, 2022).

In the context of a construct validity study, exploratory factor analysis (EFA) was applied to the analytical rubric developed for international students' Turkish academic writing skills over the data (performance task) obtained from 157 international students. In this context, firstly, in order to determine the suitability of the data for EFA, it was checked whether there was a multicollinearity problem among the sub-criteria of the DPA, and then the Skewness and Kurtosis coefficients were calculated for the normality control of the sub-criteria. The Skewness and Kurtosis coefficients between

-2 and +2 prove that the data are normally distributed (George & Mallery, 2022, p. 115). Multicollinearity occurs when the correlations between variables ($r > 0.90$ and above) are high (Çokluk et al., 2021, p. 210). In the calculations made, it was concluded that there was no multicollinearity problem since there was no correlation coefficient higher than 0.90 and that the Skewness and Kurtosis coefficients of the other sub-criteria, except for the "Visual Presentation" sub-criterion (Skewness value: 3.501; Kurtosis value: 11.759), were in accordance with the normal distribution since they varied between -2 and +2. Therefore, it was concluded that the "Visual Presentation" sub-criterion was not suitable for EFA, and it was removed from the measurement tool. In addition, before conducting EFA, Kaiser-Meyer-Olkin (KMO) was applied to determine the adequacy of the sample size for the criteria and the Bartlett Sphericity test was applied to determine the suitability of the relationship between the sub-criteria for factor analysis. Based on all these measurements, the fact that the KMO value of all criteria was higher than 0.60 (Büyüköztürk, 2018) and the data were suitable for multivariate normal distribution (Çokluk et al., 2021) proves the applicability of EFA to the measurement tool in question.

EFA was conducted using principal component analysis on the version of the data set suitable for applying the analysis in question. Factor loadings were calculated to determine the level of fulfillment of the main criterion in which the sub-criteria of the DPA are located. Eigenvalue findings were also examined to determine the factor structure. In addition, a line graph was also observed as an auxiliary method before deciding on the number of factors. As a result of the analysis, factor loadings of all sub-criteria of the DPA were found to be higher than 0.30, and it was determined that they measured the criterion well. Kline (1994) considers factor loadings of 0.30 and higher as sufficient. Similarly, Büyüköztürk (2002) defines the loadings between 0.30-0.59 as medium and 0.60 and above as high magnitudes. In addition, it was determined that there is only one component with an eigenvalue greater than 1 (Çokluk et al., 2021) in each criterion in the DPA, and this is also seen in the line graph. Therefore, it was concluded that the sub-criteria explain the related criteria in a single-factor structure. When the variances of the single component with initial eigenvalues greater than 1 were examined, it was observed that it explained 66.578% for the "Format" criterion, 78.613% for the "Academic Discourse" criterion, 66.560% for the "Text Structure" criterion, 61.067% for the "Planning and Organization" criterion, and 79.085% for the "Utilization of Resources" criterion. According to Alpar (2017), the variance explained in social sciences should be 60%. In this context, it was concluded that the variance values calculated in the current study were sufficient. In addition, since each criterion consisted of a single component as a result of the factor analysis, rotation was not required. In the exploratory factor analysis (EFA) conducted to test the construct validity of the instrument in the studies on rubric development in the literature (Öztürk & Kaplan, 2017; Yılmaz & İnceağaç, 2017; Aktaş & Alıcı, 2018; Yılmaz & Canpolat, 2020) similar steps were followed and values were examined.

In terms of the reliability of the analytical rubric developed for international students' Turkish academic writing skills, Cronbach's Alpha internal consistency reliability coefficient, inter-rater agreement, and item-total correlation values were examined. The Cronbach Alpha reliability coefficient of the developed analytical rubric was calculated in two separate ways, before and after EFA. As a result of these calculations,

it was determined that the total Cronbach Alpha reliability coefficient of the measurement tool was 0.953 for the version before EFA and 0.956 for the version after EFA. There are different opinions on the interpretation of the reliability coefficient in the literature. However, in most of the sources, a reliability coefficient of 0.70 and higher is accepted as sufficient for the reliability of the measurement tool (Nunnally, 1978; Büyüköztürk, 2018; Sönmez & Alacapınar, 2019). In this study, as a result of the calculations made regarding the Cronbach's Alpha reliability coefficient, it is seen that the reliability of the DPA is sufficient. In addition, in this study, six raters, including the researcher, evaluated 25 students' performance tasks in order to determine the inter-rater agreement in terms of reliability. In the analyses, Fleiss Kappa values were calculated since each sub-criterion was evaluated separately and by more than two raters; the Intra-Class Correlation coefficient was used since the main criteria were obtained by summing the sub-criteria. As a result of the analysis, inter-rater agreement levels vary between 0.637-0.909, with the lowest being "Comprehensibility" and the highest being "Keywords". Fleiss Kappa coefficient, which takes a value between -1 and +1, is interpreted as moderate agreement between 0.41-0.60, high agreement between 0.61-0.80, and very high agreement between 0.81-1 (Fleiss, 1971; Landis & Koch, 1977). Accordingly, the Fleiss Kappa values calculated for the sub-criteria of the DPA show that the inter-rater agreement is at high and very high levels. In addition, when the results of the intraclass correlation coefficient of the five criteria in the DPA are evaluated, it is seen that the inter-rater agreement levels vary between 0.909-0.980 in single measurements, the lowest belonging to the "Form" criterion and the highest belonging to the "Plan and Organization" criterion. In the average measurements, the lowest level of agreement belongs to the "Form" criterion and the highest to the "Plan and Organization" criterion, ranging between 0.984-0.997. The "Total" score value obtained from the DPA was calculated as 0.993 in single measurements and 0.999 in average measurements. In the literature, it is stated that the Intraclass Correlation Coefficient takes values between 0 and 1; values less than 0.5 indicate poor reliability, values between 0.5-0.75 indicate moderate reliability, values between 0.75-0.9 indicate good reliability, and values greater than 0.90 indicate excellent reliability (Koo & Li, 2016). Accordingly, it was determined that the intraclass correlation values calculated for all criteria and the total score of the DPA showed excellent agreement in single and average measurements. When all these findings were evaluated holistically, it was concluded that there was high and very high agreement between the raters. Similarly, it was determined that the methods used in various studies in the literature (Durmuş, 2022; Tarakcı, 2022) to determine the inter-rater agreement in the context of testing the reliability in the process of developing the IPA and the methods used in this study were parallel. Within the scope of this study, item-total correlations were calculated in order to determine whether the sub-criteria were compatible with the main criterion and total score as evidence of item validity. In this context, items with an item-total correlation of 0.30 and higher are recommended to be taken directly into the test because they can distinguish individuals well (Büyüköztürk, 2018, p. 183). As a result of the calculations made to determine the item-total correlation values, it was determined that all of the item-total correlations of the sub-criteria in the main criteria were higher than 0.30. In addition, the item-total

correlation values between the sub-criteria and the total score ranged between 0.568 and 0.833, with the lowest being "Language Knowledge" and the highest being "Development" sub-criteria. In rubric studies developed for different purposes in the literature (Polat-Demir, 2020; Bülbül & Bülbül, 2021) item-total correlation values were examined as evidence of item validity.

In this study, the final version of the analytical rubric developed for international students' Turkish academic writing skills as a result of validity and reliability studies consisted of 5 criteria and 24 sub-criteria. The criteria are listed as follows with their sub-criteria: "Style" (grammar, punctuation, spelling rules, comprehensibility, page layout), "Academic Discourse" (vocabulary, sentence structure, metadiscourse markers), "Text Structure" (topic, problem situation and purpose of the research, coherence, coherence, paragraph structure, synthesizing information), "Planning and Organizing" (title, summary, keywords, introduction, titling, development, discussion, conclusion and suggestions), "Making Use of Sources" (bibliography, direct and indirect quotation, academic ethical principles). When the literature was examined, it was determined that although there was no measurement tool developed based on the Turkish academic writing needs of international students, there are various types of measurement tools used to measure the relevant skills of different target groups (Aydın, 2015; Izawa et al., 2017; Shekarabi, 2017; Al-Abdullatif et al., 2020; Polat-Demir, 2020; Baz-Bolluk & Batur, 2023). While the criteria and sub-criteria in the DPA developed in the current study largely cover the criteria and sub-criteria in the aforementioned studies, they were also created by taking into account the specific characteristics of the target group of the study. In summary, it was concluded that the "Analytical Rubric for International Students' Academic Writing Skills" developed within the scope of this study is a valid and reliable tool that can measure the relevant skills of these students.

The performance-based "Analytical Rubric for International Students' Turkish Academic Writing Skills" developed within the scope of this study can be adapted for different academic text types, language levels, and teaching levels by making changes in some sub-criteria, and its validity and reliability can be tested again. Similarly, validity and reliability studies can be conducted on the existing measurement tool, and the results can be interpreted as to whether the mentioned RAT can be used in the evaluation of the academic writing skills of students studying in their mother tongue.

Author Contributions

This article is derived from a doctoral dissertation prepared by the first author under the supervision of the second author. All authors contributed equally to the writing of the article, read and approved the final version of the manuscript.

Ethical Declaration

This study was conducted with the approval decision of Istanbul University-Cerrahpaşa Social and Human Sciences Research Ethics Committee at its 2022/202 meeting dated 14.06.2022.

Conflict of Interest

The authors declare that there is no conflict of interest with any institution or person within the scope of this study.

EK: Uluslararası Öğrencilere Yönelik Türkçe Akademik Yazma Analitik Dereceli Puanlama Anahtarı

Ölçütler	Alt Ölçütler	Zayıf (1)	Geliştirilebilir (2)	Yeterli (3)	Yetkin (4)	Puan
Biçim (20)	Dil Bilgisi	Metinde en az 11 tür dil bilgil hata yapılmıştır.	Metinde 7 ila 10 tür dil bilgil hata yapılmıştır.	Metinde 3 ila 6 tür dil bilgil hata yapılmıştır.	Metinde en fazla 2 tür dil bilgil hata yapılmıştır.	
	Noktalama İşaretleri	Noktalama işaretleri kullanımında en az 8 tür hata yapılmıştır.	Noktalama işaretleri kullanımında 5 ila 7 tür hata yapılmıştır.	Noktalama işaretleri kullanımında 2 ila 4 tür hata yapılmıştır.	Noktalama işaretleri kullanımında en fazla 1 tür hata yapılmıştır.	
	Yazım Kuralları	Yazım kurallarında en az 8 tür hata yapılmıştır.	Yazım kurallarında 5 ila 7 tür hata yapılmıştır.	Yazım kurallarında 2 ila 4 tür hata yapılmıştır.	Yazım kurallarında en fazla 1 tür hata yapılmıştır.	
	Anlaşılrlık	Metnin en az 3/4'ünde anlam belirsizliğine yol açan dil kullanımları bulunmaktadır.	Metnin 2/4'ünde anlam belirsizliğine yol açan dil kullanımları bulunmaktadır.	Metnin 1/4'ünde anlam belirsizliğine yol açan dil kullanımları bulunmaktadır.	Metinde anlam belirsizliğine yol açan dil kullanımları bulunmamaktadır.	
	Sayfa Düzeni	Belirtilen formata uygun sayfa düzeni [kenar boşlukları, harf (punto, karakter), satır (hizalama, aralık), paragraf, sayfa numarası] ölçütlerinden en fazla 2'sine uyulmuştur.	Belirtilen formata uygun sayfa düzeni [kenar boşlukları, harf (punto, karakter), satır (hizalama, aralık), paragraf, sayfa numarası] ölçütlerinden 3 ya da 4'üne uyulmuştur.	Belirtilen formata uygun sayfa düzeni [kenar boşlukları, harf (punto, karakter), satır (hizalama, aralık), paragraf, sayfa numarası] ölçütlerinden 5 ya da 6'sına uyulmuştur.	Belirtilen formata uygun sayfa düzeni [kenar boşlukları, harf (punto, karakter), satır (hizalama, aralık), paragraf, sayfa numarası] ölçütlerinden tamamına uyulmuştur.	
Akademik Söylem (12)	Söz Varlığı	Sözcüklerin anlamı (somut, temel, terim) ve türü (eylem, isim sıfat vb.) en fazla 1/4 oranında akademik yazıya uygun bir biçimde kullanılmıştır.	Sözcüklerin anlamı (somut, temel, terim) ve türü (eylem, isim, sıfat vb.) 2/4 oranında akademik yazıya uygun bir biçimde kullanılmıştır.	Sözcüklerin anlamı (somut, temel, terim) ve türü (eylem, isim, sıfat vb.) 3/4 oranında akademik yazıya uygun bir biçimde kullanılmıştır.	Sözcüklerin anlamı (somut, temel, terim) ve türü (eylem, isim, sıfat vb.) metnin tamamında akademik yazıya uygun bir biçimde kullanılmıştır.	
	Cümle Yapısı	Eylem çatısı, eylem zamanı ve cümle türü maddeleri akademik yazıya uygun bir biçimde kullanılmamıştır.	Eylem çatısı, eylem zamanı ve cümle türü maddelerinden 1 tanesi akademik yazıya uygun bir biçimde kullanılmıştır.	Eylem çatısı, eylem zamanı ve cümle türü maddelerinden 2 tanesi akademik yazıya uygun bir biçimde kullanılmıştır.	Eylem çatısı, eylem zamanı ve cümle türü maddelerinden tamamı akademik yazıya uygun bir biçimde kullanılmıştır.	
	Üstsöylem Belirleyicileri*	Metnin algılanması bağlamında alıcıya gerekli olan gönderim ve vurgulama türlerinden en fazla 1'i kullanılmıştır.	Metnin algılanması bağlamında alıcıya gerekli olan gönderim ve vurgulama türlerinden 2'si kullanılmıştır.	Metnin algılanması bağlamında alıcıya gerekli olan gönderim ve vurgulama türlerinden 3'ü kullanılmıştır.	Metnin algılanması bağlamında alıcıya gerekli olan gönderim ve vurgulama türlerinden en az 4'ü kullanılmıştır.	
Metin Yapısı (24)	Konu	Konunun seçimi (alıcı, desteklenebilirlik, özgünlük, süre) ve sınırlandırılması bağlamındaki ölçütlerin en fazla 1/4'ü uygulanmıştır.	Konunun seçimi (alıcı, desteklenebilirlik, özgünlük, süre) ve sınırlandırılması bağlamındaki ölçütlerin 2/4'ü uygulanmıştır.	Konunun seçimi (alıcı, desteklenebilirlik, özgünlük, süre) ve sınırlandırılması bağlamındaki ölçütlerin 3/4'ü uygulanmıştır.	Konunun seçimi (alıcı, desteklenebilirlik, özgünlük, süre) ve sınırlandırılması bağlamındaki ölçütlerin tamamı uygulanmıştır.	

	Araştırmanın Problem Durumu ve Amacı	Araştırmanın problem durumu ve amacından en fazla 1'i ifade edilmiştir.	Araştırmanın problem durumu ve amacından her 2'si de ifade edilmiştir; ancak en az 1'i tam olarak ifade edilmemiştir.	Araştırmanın problem durumu ve amacından her ikisi de tam olarak ifade edilmiştir; ancak birbiriyle ilişkilendirilmemiştir.	Araştırmanın problem durumu ve amacı tam olarak ifade edilmiştir ve birbiriyle ilişkilendirilmiştir.	
	Bağdaşıklık	Dilsel, dil bilgisel uyum metnin en fazla 1/4'ünde sağlanmıştır.	Dilsel, dil bilgisel uyum metnin 2/4'ünde sağlanmıştır.	Dilsel, dil bilgisel uyum metnin 3/4'ünde sağlanmıştır.	Dilsel, dil bilgisel uyum metnin tamamında sağlanmıştır.	
	Tutarlılık	Metin, içerik ve düzen bağlamında en fazla 1/4 oranında tutarlıdır.	Metin, içerik ve düzen bağlamında 2/4 oranında tutarlıdır.	Metin, içerik ve düzen bağlamında 3/4 oranında tutarlıdır.	Metnin tamamı içerik ve düzen bağlamında tutarlıdır.	
	Paragraf Yapısı	Paragraflarda konu, destekleme, bitiş cümlelerinden hiçbiri doğru ve yerinde kullanılmamıştır.	Paragraflarda konu, destekleme, bitiş cümlelerinden sadece 1'i doğru ve yerinde kullanılmıştır.	Paragraflarda konu, destekleme, bitiş cümlelerinden 2'si doğru ve yerinde kullanılmıştır.	Paragraflarda konu, destekleme, bitiş cümlelerinin tamamı doğru ve yerinde kullanılmıştır.	
	Bilgileri Sentezleme	Derlenen bilgilerin en fazla 1/4'ü araştırma konusunu destekleyici şekilde bütünleştirilmiştir.	Derlenen bilgilerin 2/4'ü araştırma konusunu destekleyici şekilde bütünleştirilmiştir.	Derlenen bilgilerin 3/4'ü araştırma konusunu destekleyici şekilde bütünleştirilmiştir.	Derlenen bilgilerin tamamı araştırma konusunu destekleyici şekilde bütünleştirilmiştir.	
	Görsel Sunum**	Gerekli yerlerde grafik, tablo, şekil vb. gibi görseller kullanılmamıştır.	Grafik, tablo, şekil vb. gibi görseller amaca uygun olmayan/gereksiz bir şekilde kullanılmıştır.	Grafik, tablo, şekil vb. gibi görseller amaca uygun olarak kullanılmıştır; ancak kolayca anlaşılır değildir.	Grafik, tablo, şekil vb. gibi görseller amaca uygun ve kolayca anlaşılır bir şekilde kullanılmıştır.	
Plan ve Düzenleme (28)	Başlık	Çalışmaya başlık konulmamıştır.	Çalışmaya başlık konulmuştur, ama başlıkta biçim [sözcük (tür, sayı) vb.] ve içerik (metne uygunluk, ifade vb.) özelliklerine uyulmamıştır.	Çalışmanın başlığında biçim [sözcük (tür, sayı) vb.] ve içerik (metne uygunluk, ifade vb.) özelliklerinden yalnızca 1'ine uyulmuştur.	Çalışmanın başlığında biçim [sözcük (tür, sayı) vb.] ve içerik (metne uygunluk, ifade vb.) özelliklerinin tamamına uyulmuştur.	
	Özet	Çalışmada özet yoktur.	Araştırmanın amacı, süreci (yöntem), sonucu gibi bilgilerden en fazla 1 tanesine yer verilmiştir.	Araştırmanın amacı, süreci (yöntem), sonucu gibi bilgilerden 2 tanesine yer verilmiştir.	Araştırmanın amacı, süreci (yöntem), sonucu gibi bilgilerden tamamına yer verilmiştir.	
	Anahtar Sözcükler	Araştırmanın amacına ve problem durumuna uygun en fazla 1 anahtar sözcük belirlenmiştir.	Araştırmanın amacına ve problem durumuna uygun 2 anahtar sözcük belirlenmiştir.	Araştırmanın amacına ve problem durumuna uygun 3 anahtar sözcük belirlenmiştir.	Araştırmanın amacına ve problem durumuna uygun en az 4 anahtar sözcük belirlenmiştir.	
	Giriş	Problem durumu, alanyazın taraması ve çalışma içeriği bileşenlerinden - konu, önem ve tanıtım- en fazla 1'i yansıtılmıştır.	Problem durumu, alanyazın taraması ve çalışma içeriği bileşenlerinden - konu, önem ve tanıtım- 2'si yansıtılmıştır.	Problem durumu, alanyazın taraması ve çalışma içeriği bileşenlerinden - konu, önem ve tanıtım- 3'ü yansıtılmıştır.	Problem durumu, alanyazın taraması ve çalışma içeriği bileşenlerinden - konu, önem ve tanıtım- tamamı yansıtılmıştır.	
	Başlıklandırma	Ana başlık ya da alt başlıkların en fazla 1/4'ü kurallara uygun olarak yazılmıştır.	Ana başlık ve alt başlıkların 2/4'ü kurallara uygun olarak yazılmıştır.	Ana başlık ve alt başlıkların 3/4'ü kurallara uygun olarak yazılmıştır.	Ana başlık ve alt başlıkların tamamı kurallara uygun olarak yazılmıştır.	
	Gelişme	Bütünlük, destek, detay ve tutarlılık boyutlarından en fazla 1'i gerçekleştirilmiştir.	Bütünlük, destek, detay ve tutarlılık boyutlarından 2'si gerçekleştirilmiştir.	Bütünlük, destek, detay ve tutarlılık boyutlarından 3'ü gerçekleştirilmiştir.	Bütünlük, destek, detay ve tutarlılık boyutlarından tamamı gerçekleştirilmiştir.	

	Tartışma, Sonuç ve Öneriler	Araştırma konusunu özetleme, çalışmanın sonuçlarını alanyazındaki benzer çalışmalarla yorumlama, yeni çalışma önerileri sunma maddelerinden hiçbirine yer verilmemiştir.	Araştırma konusunu özetleme, çalışmanın sonuçlarını alanyazındaki benzer çalışmalarla yorumlama, yeni çalışma önerileri sunma maddelerinden 1'ine yer verilmiştir.	Araştırma konusunu özetleme, çalışmanın sonuçlarını alanyazındaki benzer çalışmalarla yorumlama, yeni çalışma önerileri sunma maddelerinden 2'sine yer verilmiştir.	Araştırma konusunu özetleme, çalışmanın sonuçlarını alanyazındaki benzer çalışmalarla yorumlama, yeni çalışma önerileri sunma maddelerinden tamamına yer verilmiştir.		
Kaynaklardan Yararlanma (12)	Kaynakça	Alıntılanan kaynaklar belirtilmemiştir ya da en fazla 1/4'ü belirtilen formata uygun şekilde kaynakçada doğru gösterilmiştir.	Alıntılanan kaynakların 2/4'ü belirtilen formata uygun şekilde kaynakçada doğru gösterilmiştir.	Alıntılanan kaynakların 3/4'ü belirtilen formata uygun şekilde kaynakçada doğru gösterilmiştir.	Alıntılanan kaynakların tamamı belirtilen formata uygun şekilde kaynakçada doğru gösterilmiştir.		
	Doğrudan ve Dolaylı Alıntı	Alıntılar hiç gösterilmemiştir ya da kaynakların en fazla 1/4'ü belirtilen format ve alıntılama türüne uygun şekilde metin içinde gösterilmiştir.	Kaynakların 2/4'ü belirtilen format ve alıntılama türüne uygun şekilde metin içinde gösterilmiştir.	Kaynakların 3/4'ü belirtilen format ve alıntılama türüne uygun şekilde metin içinde gösterilmiştir.	Kaynakların tamamı belirtilen format ve alıntılama türüne uygun şekilde metin içinde gösterilmiştir.		
	Akademik Etik İlkeler	İntihal yapma, gerçekte olmayan verileri kullanma, verileri değiştirme vb. gibi etik dışı davranışlardan en az 3'ü gözlenmiştir.	İntihal yapma, gerçekte olmayan verileri kullanma, verileri değiştirme gibi etik dışı davranışlardan 2'si gözlenmiştir.	İntihal yapma, gerçekte olmayan verileri kullanma, verileri değiştirme gibi etik dışı davranışlardan 1'i gözlenmiştir.	İntihal yapma, gerçekte olmayan verileri kullanma, verileri değiştirme gibi etik dışı davranışların tamamından kaçınılmıştır.		
TOPLAM BAŞARI PUANI ***							

***Kaçınmalar:** Örnek: Belki, gibi görünmektedir, söylenebilir / **Vurgulayıcılar:** Örnek: Şüphesiz, kesinlikle / **Tutum Belirleyicileri:** Örnek: Dikkat çekicidir, önemlidir / **İlişki/Bağlantı Belirleyicileri:** Örnek: Tablo 3'e bakınız, görebiliriz / **Kendini Anma:** Örnek: Çalışmamda, gözlemledim **Bağlayıcılar:** Örnek: Ama, bu yüzden, buna ek olarak / **Çerçeve Belirleyicileri:** Örnek: Sonuç olarak, bu bölümde ... ele alınacaktır / **Metin içi Belirleyiciler:** Örnek: Tablo 3'te olduğu gibi, 25. örnek / **Tanımlayıcılar:** Örnek: Hyland (2005) / **Kod Çözümleyicileri:** Örnek: Örneğin, bir başka deyişle.

**Görsel sunum alt ölçütü puanlamaya dâhil edilmemiştir.

*** Puan aralığı; 24-41 (zayıf), 42-59 (geliştirilebilir), 60-77 (yeterli), 78-96 (yetkin) olarak hesaplanmıştır.